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ABSTRACT

Techniques for conducting student-attrition studies using the Student-Outcomes Information Service (SOIS) are outlined. General concepts to effectively guide an institutional research effort are discussed, with attention to better defining student attrition and a summary of results of recent research on the reasons why students withdraw from college. The design of a simple student-tracking system built around ongoing registration data is addressed, along with how SOIS survey instruments can considerably enhance the student-tracking system by providing longitudinal data on student attitudes and achievements. In addition, techniques for conducting a mailed survey to nonreturning students using the SOIS Former-Student Questionnaire are covered. Such techniques include identifying dropouts, ensuring usable response rates, estimating costs, and analyzing results. Finally, ways of using the results of retention research to design and inform more effective retention programs are examined. Appendices include a planning chart for administering mailed questionnaires, a guide to using the SOIS Questionnaire-Analysis Service, sample reports and cover letters, and copies of the SOIS Former-Student Questionnaire in two- and four-year versions. (SW)

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# Conducting Student Retention Studies

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# Conducting Student Retention Studies

Peter T. Ewell

1984

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P.O. Drawer P Boulder, Colorado 80302

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# 1

# Introduction

College and university administrators must increasingly confront the problem that students withdraw without completing a prescribed course of study. Dropping out is more and more being seen as a sign of institutional failure. Preventing students from doing so has become a major preoccupation throughout post-secondary education.

Many reasons for this preoccupation are apparent. For private institutions, lost students mean lost tuition revenue. In times of shrinking resources and increased competition, every student lost may have a noticeable effect on the institution's operating budget (Kemerer, Baldridge, and Green 1982). In the public sector, funding has been no less tied to enrollments. Because of this, maintaining enrollments through increased recruitment and retention has held an escalating level of priority. In both types of institutions, moreover, administrations have discovered that the costs associated with successful retention programs are generally far less than the costs associated with recruiting new students.

For any institution, the first step in constructing a successful student-retention program is research. Each college and university must discover (1) the degree to which it has a retention problem, (2) the particular student populations among which the problem is occurring, and (3) some of the reasons *why* the problem is occurring. The key to answering these questions lies in development of an effective "student-tracking" system. Such a system, composed of data drawn from ongoing

student records and the responses to student and former-student surveys, can help an institution estimate what kinds of students are dropping out of what kinds of programs under what kinds of circumstances.

The purpose of this manual is to outline a set of techniques for conducting student-attrition studies using the NCHEMS/College Board Student-Outcomes Information Service (SOIS). While the explicit applicability of SOIS instruments to retention research will be discussed in some detail, the manual is also intended to be useful as a general guide to conducting student-tracking and retention studies of all kinds. Consequently, as much attention is paid to conceptual issues of retention research as to the administration of a particular set of assessment instruments.

**Why a Special Manual for Attrition Studies?**

Because many of the techniques presented in this manual apply to all types of student surveys, one might question the need for a special manual on conducting student-attrition studies. Anyone familiar with general student-survey practices could easily apply these techniques to surveys of former students. However, many special problems arise when trying to survey former students—particularly students who may be disillusioned or angry with the institution or the educational process in general. Special problems are likely to be encountered in simply identifying the students to whom the questionnaire is to be sent. More problems may be encountered in producing a questionnaire designed explicitly for nonreturning students and in locating and obtaining responses from a dispersed and possibly alienated population. Institutional administrators often lack the time and the resources required to independently develop a questionnaire and sampling methods required for an effective attrition survey. The SOIS system, if coupled with a special manual on conducting student-attrition studies, can overcome many of these difficulties by providing administrators with a proven set of survey instruments together with some tested guidelines for initiating an effective attrition-research effort.

Furthermore, student attrition can be an extremely complex phenomenon. Much research has indicated, for example, that students often make the decision to leave an institution long before they act on it, and that many reasons are involved (Lenning, Beal, and Sauer 1980). More importantly, it is often difficult to isolate precisely which elements of the institutional environment were responsible for the decision and the degree to which action on the part of institutional administrators might have influenced the decision. Thus, another reasons for an explicit manual on student attrition is to outline some of the unique challenges of conducting research on this multifaceted subject.

## An Overview of SOIS

The Student-Outcomes Information Service (SOIS) was designed jointly by NCHEMS and the College Board in the mid-1970s. The purpose of the system is to provide college and university administrators with a range of student-outcomes data useful for program planning and decisionmaking. Since 1977, more than 120 higher-education institutions have administered more than 480,000 questionnaire instruments under the SOIS system.

Most of the items included in SOIS questionnaires have been tested individually, either on previous versions of SOIS instruments or on comparable questionnaires such as the Bureau of Census Educational Attainment Survey or the Cooperative Institutional Research Program Survey of Entering Freshmen (Astin, Panos, and Creager 1967).

Pilot testing of the initial series of five questionnaires took place in 1977, and as new questionnaires are added to the series, each is thoroughly pilot tested at both two-year and four-year institutions. The final versions of the currently available series were developed in consultation with field-test users. Institutions using SOIS instruments are periodically surveyed to detect problems of wording and administration, and several modifications have been made on the basis of this feedback.

The core of the service consists of six questionnaires designed for administration to students at different points in their enrollment history. Each of the six questionnaire instruments is offered in a two-year and a four-year version in order to accommodate the special needs of different kinds of institutions. A key feature of the questionnaires is that all six contain a common set of core questions, enabling direct comparisons to be drawn among different populations of students or between different points in the college careers of the same body of students.

SOIS survey instruments have also been designed to allow each institution to add up to fifteen questions unique to the institution, system, or state. In this way, college and university administrators can collect standardized comparative data about their students at the same time that they examine particular institutional or statewide problems not addressed by the standard questions.

An additional feature of SOIS is that the service includes a questionnaire-analysis service. The service provides detailed analytical reports on the data gathered, eliminating the need for local data processing. Furthermore, comparative data from other institutions of similar type are provided through program profiles—standardized reports incorporating all institutions using the SOIS Questionnaire-Analysis Service.

Particular types of data collected by each questionnaire in the SOIS series are noted below:

1. *Entering-Student Questionnaire.* Administered to students as they first register at the institution, this questionnaire provides a baseline of data on demographic characteristics, educational and occupational experience and plans, sources of financial support, goals, and reasons for selecting the institution. It can provide a valuable data supplement to the information routinely collected through admissions procedures.
2. *Continuing-Student Questionnaire.* Administered to students as they reenroll each term and to students who reenroll after being away from the institution for a term or more, this instrument collects data about student characteristics and backgrounds as well as information on students' current and long-range goals; employment status; and need for, use of, and level of satisfaction with the services provided by the college.
3. *Former-Student Questionnaire.* This instrument is administered to students who leave the institution without formally completing a program or receiving a degree or certificate. In addition to demographic and background data concerning students' experiences and progress at the institution, the questionnaire provides detailed information as to why students did not return (both positive and negative reasons) and on their level of satisfaction with various institutional services.
4. *Program-Completer and Graduating-Student Questionnaire.* Administered to all students who are about to complete a program or earn a degree or certificate, this questionnaire provides demographics, background data, and information on students' level of satisfaction with various institutional services as well as student ratings of how well the institution helped them reach their goals. Information about students' future educational plans is also collected.
5. *Recent-Alumni Questionnaire.* Administered from three months to a year after a student's completion of a degree, certificate, or vocational program, this questionnaire provides demographic and background data on students' progress at the institution as well as considerable detail about the first degree programs that students enrolled in after graduation and the first full-time jobs they held after leaving the institution.
6. *Long-Term Alumni Questionnaire.* Administered from three to five years after a student's completion of a degree, certificate, or vocational program, this questionnaire provides demographic and background data about students' enrollment at the institution and considerable detail about postgraduate educational and full-time job experience.

All six questionnaires in SOIS can be used in sequence to collect longitudinal data, or they can be used separately to collect data about a particular group of students or to investigate a specific problem. With periodic administration of the questionnaires, an institution can assess the progress of its students and the relative impacts upon students of its various educational and service programs. Data obtained from longitudinal outcome studies can be compared to the results of previous studies of the institution's students, as well as with similar data obtained from other institutions using the SOIS questionnaires. For a more detailed description of the SOIS system and how it can be used, see the accompanying publication, *Student-Outcomes Questionnaires: An Implementation Handbook*, Second Edition (Ewell 1983b).

**Overview of the Manual**

Effective retention research requires more than simple methodology. Many difficulties may be avoided by understanding from the outset which of several concepts of attrition will be used to guide a particular analysis, and understanding how the data on attrition, once collected, are going to be used. This manual is organized to provided guidelines on how to do retention research and on how to effectively apply the results of such research.

Chapter 2 of the manual is concerned with better defining student attrition and with presenting a summary of the results of recent research on the reasons why students withdraw from college. A major purpose of the chapter is to provide some general concepts to effectively guide an institutional research effort.

Chapter 3 of the manual is concerned with designing a simple student-tracking system built around the kinds of ongoing registration data that most institutions collect routinely. A further purpose of the chapter is to show how SOIS survey instruments can considerably enhance such a system by providing longitudinal data on student attitudes and achievements.

Chapter 4 of the manual describes in detail techniques for conducting a mailed survey to nonreturning students using the SOIS Former-Student Questionnaire. Such techniques include identifying dropouts, ensuring usable response rates, estimating costs, and analyzing results.

Chapter 5, the final chapter, covers ways of using the results of retention research to design and inform more effective retention programs. Appendices to the manual include a planning chart for administering mailed questionnaires, a guide to using the SOIS Questionnaire-Analysis Service, sample reports and cover letters, and copies of the SOIS Former-Student Questionnaire in its two-year and four-year versions.

# 2

# An Overview of Attrition and Retention

It is often observed that retaining students is not in itself an appropriate goal for an educational institution. There are many reasons, for example, why a given student ought not continue to be enrolled in a particular institution. Among these are lack of academic skill, lack of motivation, and attainment of the student's own educational goals. Although enrollment-driven funding formulas and lost tuition revenue can often foster a short-term, "retention-at-all-costs" mentality among college and university administrators, such an attitude is rarely of benefit to an institution in the long run.

Rather than being a goal in itself, a high student-retention rate should be the result of the improved programs and services provided by the institution. The objective of retention programs should be to provide an effective curriculum and an appropriate array of support services designed to meet the identified needs of currently enrolled and future students. A retention-research program should consequently attempt to identify which students stay and which leave, and to ascertain the degree to which decisions to leave might be preventable through institutional action.

## Some Myths about Retention

One indication of the complexity of student retention is the number of widely held beliefs about those who drop out. Although often advanced as reasons why students leave, none of these beliefs turns out to be uniformly true. Noting where each goes wrong, however, can provide some important insights into the complex nature of student attrition (Noel 1982).

1. *Retaining students means lowering academic standards.* This belief is commonly held by faculty, who often see student-retention programs as keeping students enrolled who ought not to be. In fact, however, most research indicates little correlation between voluntary withdrawal and academic difficulty (Lenning, Beal, and Sauer 1980). Most students who leave do so in good academic standing, and do so for complex reasons. Perceived academic problems are often some of those reasons, but they by no means constitute a majority.
2. *Retention is a student-services problem.* This belief is also quite common and holds that it is up to counselors and other student-affairs professionals to prevent students from dropping out. According to this belief, students withdraw because they have not been properly counseled, advised, entertained, housed, or fed; in brief, keeping students enrolled is not an academic responsibility. On the contrary, however, much research has shown that interaction with faculty is often the single most important factor involved in student retention (Terenzini 1979). Furthermore, no single office or professional role is critical. Rather, successful student-retention programs are built on a solid foundation of cooperation throughout the institution (Kemerer, Baldridge, and Green 1982; Ewell 1983a).
3. *Dropouts are "flunkouts."* This variation on the first myth emphasizes the common perception that students who withdraw cannot meet the academic challenge and ought not to have been enrolled in the first place. As mentioned previously, there is little evidence that this is generally the case. More importantly, this myth places the entire responsibility for student success on the individual student and none on the institution. While many withdrawals are indeed for the best, research suggests equally many are not and could have been prevented if appropriate action had been taken.
4. *Dropouts cannot afford to continue.* This myth holds that the primary reasons for withdrawal are financial. Students leave because they run out of financial aid or otherwise find that they cannot pay the tuition and living expenses associated with college or university enrollment. While finances are often given by students as a reason for withdrawal, the bulk of research evidence suggests that financial difficulty in itself

is rarely the cause of dropping out (Lenning, Beal, and Sauer 1980). Instead, financial stress may be one among many interdependent motivating factors, but one seen by students as an externally "acceptable" reason for leaving school.

Persistence of these myths despite the findings of many years of retention research testifies to both the multifaceted nature of student attrition and to the need for each institution wishing to improve retention to develop its own retention-research program. Such myths are only generally refuted in the context of hard, unambiguous data about the fates and opinions of students enrolled at the institution in question.

**The Many Definitions of Attrition**

Students withdraw from colleges and universities for many reasons. Distinguishing among these reasons is one of the first tasks facing any attrition study, and it may well be the most challenging. At the simplest level, "attrition" is used to describe all withdrawal from an institution without formally completing a program. Because most student record systems are constructed on a term-by-term basis, in practice this means that any student not completing a program and not enrolled in the current term after having been enrolled in a past term is counted as contributing to attrition. A further refinement of the term will exclude academic failures. According to this conception, attrition will consist of all those *voluntarily* withdrawing from an academic program.

While none of these definitions of attrition is intrinsically right or wrong, it is important to identify three problems often associated with the concept of attrition. These problems can be labeled the Unit-of-Analysis Problem, the "Stop-Out" Problem, and the Goal-Fulfillment Problem.

The essence of the *Unit-of-Analysis Problem* is to determine exactly what a given student is withdrawing from. For example, "attrition" can imply withdrawal from a particular course, from a program, from an institution, or from higher education at large. In the first case, the professor teaching the course will note a "loss" when the student does not return, but there has been no loss from the degree program in which the student is enrolled or from the institution. In the second case, a change in enrollment status may produce gains and losses for several programs at the institution, but the net enrollment of the institution will remain unchanged. In the third case, the student will cause an enrollment drop for the institution but may enroll in another institution in order to more effectively pursue his or her educational goals. Only in the fourth case does withdrawal cause a net loss to the entire system of higher education.

Which of these several conceptions of attrition one chooses, of course, depends upon where one sits. By far the most common is the third, because losses to a given institution constitute a financial loss regardless of where the student goes. But it is

important to emphasize that there are good reasons for defining and investigating attrition at the class, program, or system levels of analysis. For many institutions, for example, it may be an important question to determine the rates at which students withdraw from important core courses. For others, the structure and volume of interprogram transfers may have substantial implications for the way some programs must be staffed to meet shifting student demand. Finally, institutions should know whether students are leaving to pursue study elsewhere or because their educational goals have already been met.

The essence of the *Stop-Out Problem* is that more and more students experience complex patterns of enrollment that involve not attending college for one or more terms. Such interrupted enrollment—often termed "stopping out"—can considerably complicate the investigation of attrition. This is because the student can easily be counted as a dropout during the term he or she is not attending, only to drop back in again the next term. The student's real status has not changed over the period of nonenrollment, but it is extremely difficult for the researcher to know this until the student has reenrolled. As will be discussed in the following chapter, a primary reason why institutions undertake student-tracking studies is to enable them to separate dropouts from stop-outs.

The final problem, the *Goal-Fulfillment Problem*, is the most conceptually complex. The essence of this problem is that students withdraw from colleges and universities for both positive and negative reasons. Some cease their enrollment because they have fulfilled their educational goals, while others withdraw because they feel that the institution is no longer helping them meet their goals. While both motivations result in the same action, the first is the result of institutional success and the second is the result of perceived deficiencies in the institution.

Many college and university administrators do not recognize the importance of this distinction. A student lost is, after all, a student lost; whether or not the student has fulfilled his or her own goals is seen as of little consequence. Increasingly, however, administrators have come to recognize the value of partitioning gross attrition statistics into a portion representing real attrition—the part that the institution is responsible for and ought to do something about—and various other kinds of withdrawal (Sheldon 1981). Not to do so is to considerably overstate the attrition problem. For example, many community colleges must increasingly labor under the burden of attrition rates of 75 percent or more. Upon investigation, many of those counted as attrition have left the institution to accept employment in their field of training—the reason why they chose to enroll in the first place (Nickens 1976; Phillips 1982). Similarly, many community-college transfer students enroll and perform successfully at senior institutions without ever obtaining the A.A. degree. Because they did not obtain the degree, these students are often technically counted under attrition although they fully met the goals of the program in which they were enrolled. Such problems are not only encountered at community colleges but increasingly are affecting four-year institutions as well.

Because of these complexities, college and university administrators should continually bear two points in mind when considering gross attrition statistics. The first is to carefully ascertain the enrollment objectives of the students in question and the degree to which the institution can continue to contribute to those objectives. Students attend college for increasingly diverse reasons, and very few of those reasons today include the traditional one of earning a baccalaureate degree. Secondly, however, administrators should carefully distinguish between factors that the institution can control and things that are outside the institution's capacity to influence. As Robert Grose has effectively pointed out, some students *should* leave college (Grose 1980). The mission of effective research-based retention programs is to prevent the ones who shouldn't drop out from doing so for preventable reasons.

In sum, the simple notion of term-to-term attrition becomes complicated when all its ingredients are noted and assessed (see figure 1). A given institution may have a relatively high gross attrition rate but may do an excellent job of fulfilling student goals and of minimizing preventable dropouts. Another institution may have a much lower gross attrition rate but may be doing a much worse job at keeping the students it could and should keep. One of the most important tasks of retention research is consequently to enable the administrator distinguish between these importantly different types of withdrawal.

**Research on Student Attrition: Some Findings**

While each institution ought to develop its own attrition studies, it is useful to consider the many findings that have emerged in retention research over the past two decades. Knowledge of these general findings will enable administrators to focus immediately on those areas where their student population is similar to or different from national trends. Such knowledge will enable those responsible for developing campuswide retention efforts to better judge the chances of success for programs that have worked successfully elsewhere.

A first question is what levels of attrition are typical at different kinds of institutions. Table 1 gives results on student-retention rates for different types of institutions over different time periods. These statistics consist of average reported retention rates supplied in response to a recent survey of student-retention programs conducted by NCHEMS and the American College Testing Program (Beal and Noel 1979). Because they are self-reported, these statistics should be treated with some caution. Many definitions of retention may be present in the numbers reported here. Nevertheless, trends by type of institution are strongly apparent and, while not norms, can serve as useful benchmarks in conducting institution-specific research on student attrition.

FIGURE 1

CONTRASTING ATTRITION PROFILES AT THREE INSTITUTIONS

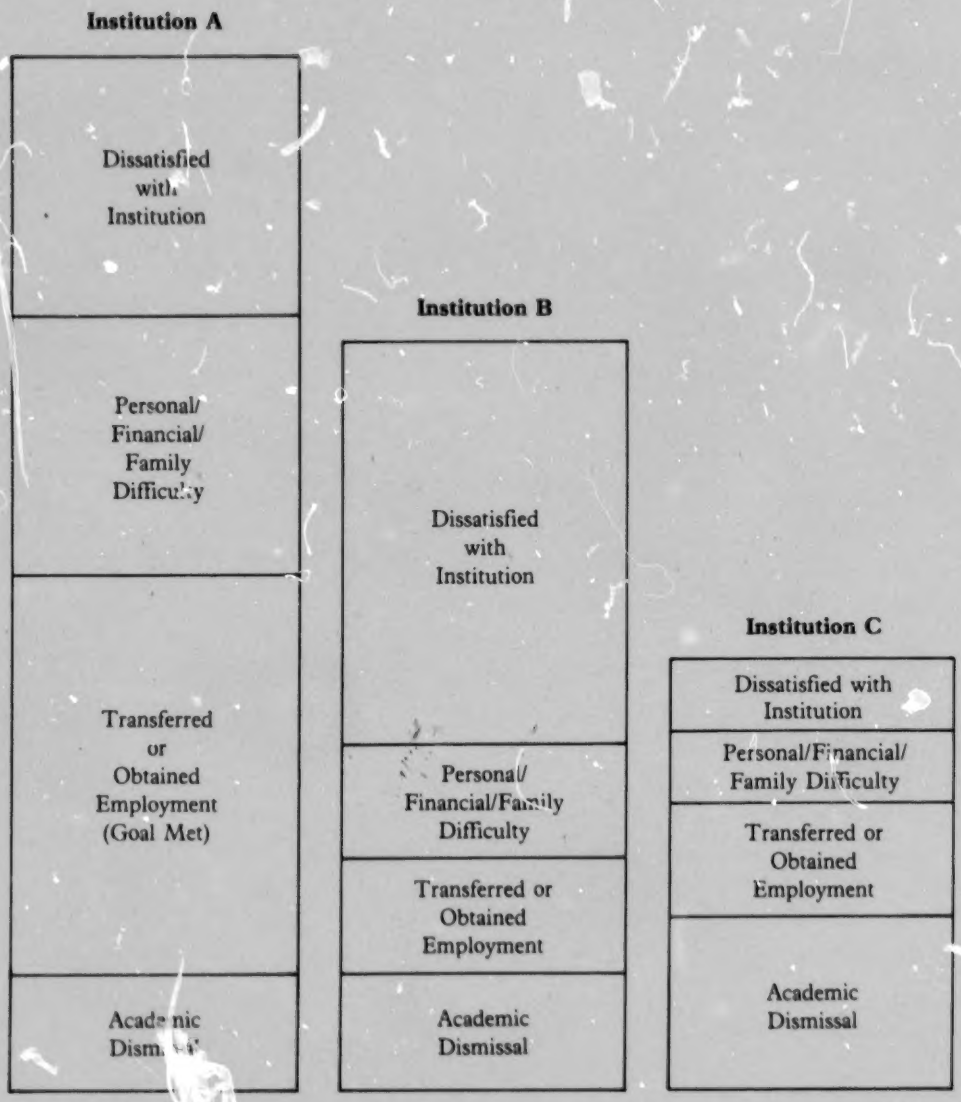


TABLE 1

RETENTION AND GRADUATION RATES BY TYPE OF INSTITUTION

| | Retention after 1 Year | | | | | | Retention after 2 Years | | | | Graduation | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1975-76 | | 1976-77 | | 1977-78 | | 1975-77 | | 1976-78 | | In 3 Yrs. | | In 5 Yrs. | |
| | N | % | N | % | N | % | N | % | N | % | N | % | N | % |
| 2-Year Public | 81 | 57 | 92 | 57 | 101 | 55 | | | | | 213 | 42 | | |
| 2-Year Private | 28 | 61 | 30 | 64 | 31 | 63 | | | | | 48 | 61 | | |
| Secular | 12 | 63 | 12 | 62 | 12 | 64 | | | | | 20 | 64 | | |
| Religious | 16 | 60 | 18 | 65 | 19 | 62 | | | | | 28 | 60 | | |
| 4-Year Public | 109 | 58 | 109 | 67 | 112 | 66 | 92 | 55 | 83 | 54 | | | 148 | 53 |
| 4-Year Private | 223 | 71 | 229 | 71 | 237 | 70 | 187 | 57 | 187 | 57 | | | 327 | 60 |
| Secular | 74 | 72 | 80 | 72 | 85 | 73 | 60 | 62 | 63 | 61 | | | 116 | 63 |
| Religious | 149 | 71 | 158 | 70 | 161 | 68 | 131 | 55 | 130 | 54 | | | 211 | 58 |
| All | 446 | 67 | 479 | 67 | 502 | 65 | 286 | 56 | 280 | 56 | | | 227 | 58 |

SOURCE: Philip E. Beal and Lee Noel, *What Works in Student Retention* (Iowa City, Iowa, and Boulder, Colo.: American College Testing Program [ACT] and National Center for Higher Education Management Systems [NCHEMS], 1980), p. 37.

A second question is what research can tell us about the kinds of students who drop out. As table 2 indicates, the characteristics of the "typical" withdrawing student can be summarized in terms of four basic dimensions—academic factors, demographic factors, goals and aspirations, and financial factors (Lenning, Beal, and Sauer 1980). Academic factors include such traditional items as aptitude and prior performance; they also include such "skills" factors as study habits and "quality of effort" (Pace 1979). Demographic factors are generally not powerful in predicting or explaining student withdrawal from college, once academic and motivational factors are taken into account. Thus, the typically high withdrawal rate of minority students in many institutions are largely explainable in terms of other factors.

Goals and aspirations are often powerfully related to the decision to drop out. As discussed previously, the degree to which a student sees attainment of a degree as an intrinsic goal to be pursued is an important predictor of program completion (Walleri 1981). Peer expectations of degree attainment and employment can be another powerful influence here. Financial factors, while often overrated, can nevertheless be important. As discussed previously, however, students often say they have a financial problem because such a problem is perceived to be a more acceptable reason for leaving college than what may be the real reason.

In examining this list of related characteristics, two cautions must be borne in mind. First, these factors are often complexly interrelated. A student seeking employment may have a combination of negative peer expectations for higher education, poor study habits, and a high concern about finances. Another student may have a similar or a different combination—there are few consistent patterns of

TABLE 2

SUMMARY OF RETENTION CORRELATES

| | | |
|---|---|---|
| **Academic Factors:** | | |
| High-School Performance (GPA, Rank) | + | (but many high-potential students drop out) |
| Academic Aptitude | + | |
| Poor Study Habits | – | |
| First-Term Grades | + | (but many students leave in good standing) |
| Academic Rating of High School | + | (relates primarily to breadth and quality of curriculum) |
| **Demographic Factors:** | | |
| Age | +/– | (older students tend to drop out of traditional curriculum) |
| Sex | +/– | |
| Socio-Economic Status | +/– | (not in itself a factor but may be related to others) |
| Ethnicity | – | (minority students drop out more frequently, but evidence is ambiguous as to why) |
| Size of High School | + | |
| **Aspirations and Motivations:** | | |
| Level of Degree Aspiration | + | |
| Intention to Transfer | – | |
| Commitment | + | |
| Peer-group Influence | + | (relation is positive if peer group is also enrolled) |
| Vocational Goals | +/– | (positive if a vocational program requires certification) |
| Satisfaction | + | (but results surprisingly ambiguous) |
| **Financial Factors:** | | |
| Concern about Finances | – | |
| Financial Aid | + | (but form of aid can influence persistence) |
| Employment (Full-time) | – | |
| Employment (Part-time) | + | (especially if on-campus employment) |

SOURCE: Adapted from findings reported in Oscar T. Lenning, Philip E. Beal, Ken Sauer, *Retention and Attrition: Evidence for Action and Research* (Boulder, Colo: NCHEMS, 1980).

TABLE 3

POSITIVE CAMPUS CHARACTERISTICS BY TYPE OF INSTITUTION

| Positive Characteristic | 2-Year Public | 2-Year Private | 4-Year Public | 4-Year Private | Total |
|---|---|---|---|---|---|
| N = | 255 | 52 | 201 | 350 | 858 |
| Caring attitude of faculty and staff | 4.30 | 4.52 | 4.00 | 4.38 | 4.28 |
| High quality of teaching | 4.03 | 2.67 | 3.72 | 3.94 | 3.91 |
| Adequate financial aid | 3.79 | 3.56 | 3.77 | 3.51 | 3.66 |
| Student involvement in campus | 3.03 | 3.46 | 3.46 | 3.44 | 3.30 |
| High quality of advising | 3.46 | 3.30 | 3.19 | 3.09 | 3.23 |
| Excellent counseling services | 3.36 | 3.06 | 3.18 | 2.94 | 3.19 |
| Excellent career-planning services | 3.37 | 2.80 | 3.21 | 2.99 | 3.14 |
| Concern for student/institutional fit | 2.88 | 3.36 | 3.01 | 3.30 | 3.11 |
| Admissions geared to graduation | 2.54 | 3.19 | 3.06 | 3.14 | 2.96 |
| Early alert system | 2.75 | 2.90 | 2.70 | 2.61 | 2.70 |

NOTE: Figures are average ratings given by respondents on a scale of one (low) to five (high).

NEGATIVE CAMPUS CHARACTERISTICS BY TYPE OF INSTITUTION

| Negative Characteristic | 2-Year Public | 2-Year Private | 4-Year Public | 4-Year Private | Total |
|---|---|---|---|---|---|
| N = | 255 | 52 | 201 | 350 | 858 |
| Inadequate academic advising | 2.87 | 2.33 | 3.61 | 2.90 | 3.01 |
| Inadequate curricular offerings | 2.65 | 2.56 | 2.90 | 2.93 | 2.80 |
| Conflict between class/job | 3.78 | 2.12 | 2.86 | 2.08 | 2.77 |
| Inadequate financial aid | 2.40 | 2.50 | 2.64 | 2.91 | 2.66 |
| Inadequate counseling support system | 2.53 | 2.29 | 2.76 | 2.56 | 2.58 |
| Inadequate extracurricular programs | 2.47 | 2.86 | 2.31 | 2.78 | 2.58 |
| Inadequate academic support services | 2.40 | 2.10 | 2.80 | 2.52 | 2.52 |
| Inadequate cultural/social growth | 2.42 | 2.14 | 2.52 | 2.61 | 2.51 |
| Inadequate career-planning services | 2.58 | 2.20 | 2.74 | 2.34 | 2.48 |
| Inadequate student-faculty contact | 2.37 | 1.60 | 3.01 | 2.06 | 2.33 |
| Insufficient intellectual challenge | 2.35 | 2.06 | 2.42 | 2.27 | 2.31 |
| Lack of faculty care and concern | 2.30 | 1.58 | 2.86 | 2.01 | 2.26 |
| Inadequate part-time employment | 2.37 | 2.08 | 2.49 | 2.11 | 2.29 |
| Unsatisfactory living accommodations | 2.04 | 2.28 | 2.24 | 2.40 | 2.25 |
| Low quality of teaching | 2.21 | 2.00 | 2.45 | 2.10 | 2.21 |
| Lack of staff care and concern | 2.24 | 1.69 | 2.50 | 2.07 | 2.20 |
| Restrictive rules and regulations | 1.38 | 2.63 | 1.58 | 2.08 | 1.79 |

NOTE: Figures are average ratings given by respondents on a scale of one (low) to five (high).

SOURCE: Philip E. Beal and Lee Noel, *What Works in Student Retention: A Preliminary Summary of a National Survey* (Iowa City, Iowa: American College Testing Program [ACT] and National Center for Higher Education Management Systems [NCHEMS], 1979), p. 11, 10.

interrelationship. Secondly, these are national trends distilled from a wide variety of individual studies. It would be the height of folly to expect them to apply in every institutional setting. Once again, they are supplied as context—to help those undertaking simple attrition studies to determine in what ways they are similar to or different from other institutions.

A third and final question relates to the reasons why students drop out. Table 3 summarizes responses to the NCHEMS/ACT survey on the campus factors positively and negatively related to student retention. Once again, caution should be observed in generalizing from these results. Nevertheless, important themes are present and should be further illuminated through individual campus-level attrition studies.

## Conclusions

It is not the intent of this chapter to provide a comprehensive and up-to-date review of attrition and retention literature. The bibliography in this manual contains a number of review volumes and articles that effectively summarize the results of many years of retention research. Rather, the objective of this chapter is to put individual institutional efforts to collect attrition data into a proper context for action. Student attrition is a complex phenomenon—perhaps the most complex those responsible for student success on campus must face. Before embarking upon detailed study of a given situation, time is well spent deciding exactly what is to be counted as attrition, and in planning how the results of any proposed research effort are going to be applied.

# 3

# Designing a Student-Tracking System

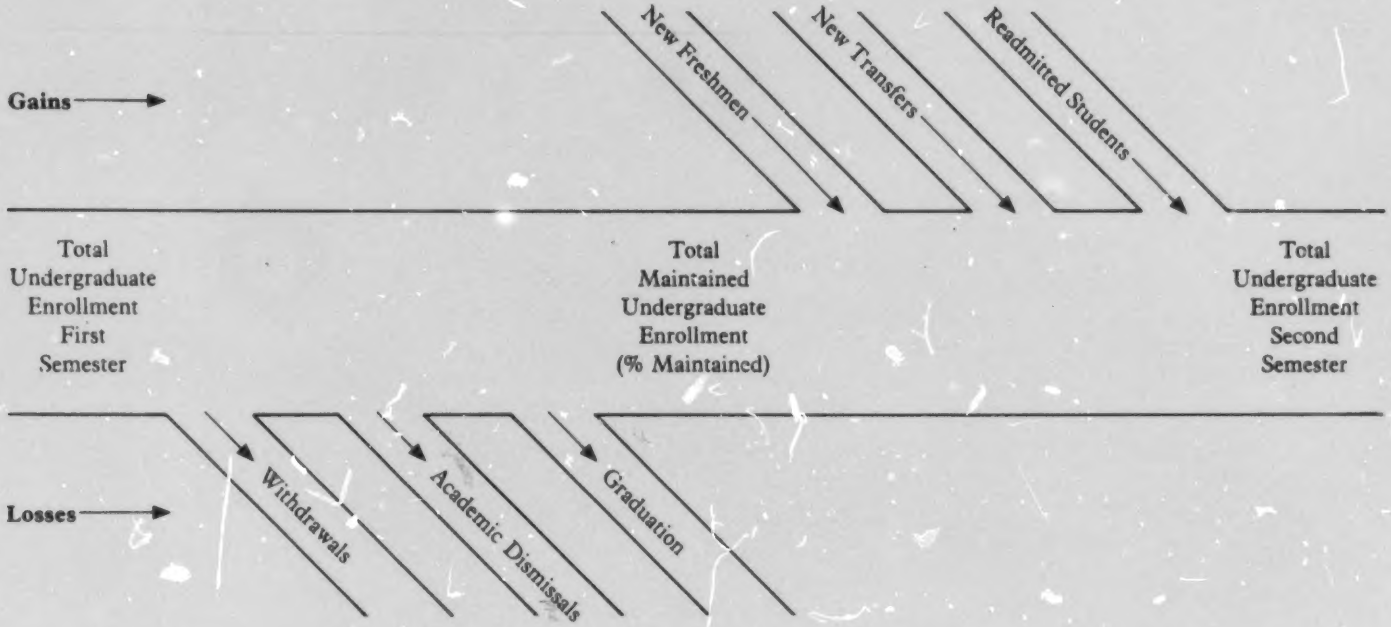
Many recent studies of attrition and retention have stressed the importance of modeling college and university enrollments as a continuous "flow" or "pipeline" extending from admission to graduation (Rumpf 1978). Students enter the pipeline through various processes such as initial admission, readmission, and transfer and leave it through graduation, dismissal, transfer, and voluntary withdrawal.

Figure 2 graphically illustrates the student pipeline of a typical undergraduate institution. Inspection of this figure reveals how complex the measurement of student attrition can be. Because withdrawing students are not the only students leaving the institution, they must be carefully distinguished from those leaving after program completion and those leaving through academic dismissal or suspension. Furthermore, the entire process is complicated by a continuous stream of new students entering the institution through admission, transfer, or readmission. Each of these flows in and out of the institution is independent, and changes in each may or may not be detectable as shifts in total enrollment.

Because of the complexity of student flow, retention researchers have found that estimating actual student attrition can be a considerable challenge. The accepted way to meet this challenge is to develop a student-tracking system designed to directly monitor the enrollment histories of selected groups of students as they progress through the institution. Such a student-tracking group is generally termed a "cohort," and the most basic technique of retention research is thus the

FIGURE 2

GRAPHIC REPRESENTATION OF STUDENT FLOW MODEL—THE PIPELINE ANALOGY




**Maintained Enrollment** = Total Undergraduate Enrollment for Second Semester − New Freshmen Admissions for Second Semester − New Transfer Admissions for Second Semester − Readmitted Students for Second Semester

SOURCE: David Rumpf, *Undergraduate Retention: Description of Student Flow, Including Applications* (Amherst: University of Massachusetts, Office of Budget and Institutional Studies, 1978), p. 3.

"cohort study." Designing a simple sequence of cohort studies using available enrollment data and responses to questionnaires such as those provided by SOIS constitutes the first and most basic task in any institutional retention-research effort.

### Some Elements of a Simple Cohort Study

The basic ingredients for a simple cohort study are available to the majority of higher-education institutions in the form of a computerized student-record system. For institutions without such a system, manually maintained enrollment records contain the needed data but they may be somewhat harder to locate and manipulate. However, most student-record systems, computerized or manual, maintain distinct files that contain each term's registration and enrollment information. The enrollment record of a particular student, over time, may be unusually difficult to extract from such a database.

In order to overcome this situation, cohort-tracking studies generally utilize a small and carefully selected set of data elements extracted from distinct term-enrollment files, and assembled in a separate file for analysis. For example, the total number of credit hours attempted by a given student in each term is identified and extracted from each of the term-data files in which the student appears. This information is then assembled in a single tracking file that contains that student's complete history of hours attempted by term.

A typical selection of data elements and the format for the resulting cohort-tracking file is presented in table 4. The array of actual data elements in such a file, as well as the structure of the file itself, may differ from institution to institution. The essential logic of assembling cohort data should, however, be plain: complete enrollment histories must be assembled for each student in the identified cohort, and they must be organized in such a way that comparisons among the enrollment histories of different kinds of students can be easily made and reported.

Again, it is important to emphasize that a computerized student-record system is not strictly necessary to accomplish this procedure. Many institutions have designed and implemented effective manual student-tracking systems by directly transcribing the relevant information from student transcripts and tabulating the results. While this procedure is time-consuming, particularly when large numbers of students are involved, it can be quite effective in providing the needed information. Institutions facing this situation, however, would do well to consider sampling strategies in order to cut down on the size of the task. For overall institutional purposes, for example, it may be just as useful to track a 20 percent sample of a given entering class as to follow the entire class.

One of the most difficult aspects of conducting cohort-tracking studies is identifying all the members of the cohort to be tracked. In most studies, the cohort will be a complete entering class—all those who in a given term are attending the institution for the first time. While conceptually a straightforward statement, this

TABLE 4

STUDENT TRACKING DATABASE
PROPOSED DATA ELEMENTS

| DATA ELEMENT | POSITION | LENGTH | TYPE |
|---|---|---|---|
| Social Security Number | 1-9 | 9 | N |
| Year of Birth | 10-11 | 2 | N |
| Sex | 12 | 1 | AN |
| Race/Ethnicity | 13 | 1 | AN |
| Last Prior College | 14-19 | 6 | AN |
| Student Intent* | 20 | 1 | AN |
| Entering Student Type | 21 | 1 | N |
| Entering Student Major | 22-25 | 4 | AN |
| Entering Student Time of Attendance | 26 | 1 | AN |
| Degree Field Attained* | 27-30 | 4 | AN |

| DATA ELEMENT | POSITION | LENGTH | TYPE |
|---|---|---|---|
| Term 1 Hours Attempted | 31-35 | 5 | N |
| Term 1 Hours Completed | 36-40 | 5 | N |
| Term 1 Cumulative GPA | 41-43 | 3 | N |
| Term 1 Degree Earned Flag | 44 | 1 | N |

| | TERM | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Hours Attempted | 45-49 | 59-63 | 73-77 | 87-91 | 101-105 | 115-119 | 129-133 | 143-147 |
| Hours Completed | 50-54 | 64-68 | 78-82 | 92-96 | 106-110 | 120-124 | 134-138 | 148-152 |
| Cumulative GPA | 55-57 | 69-71 | 83-85 | 97-99 | 111-113 | 125-127 | 139-141 | 153-155 |
| Degree Earned Flag | 58 | 72 | 86 | 100 | 114 | 128 | 142 | 156 |

*Field reserved for data currently not collected.

assertion contains many ambiguities. Should special or nondegree students be included in the cohort? If not, what should be done about those who will eventually change their status and enroll in degree programs? Should transfers be included or only new entering freshmen? What about those readmitted to the institution after a long period of absence? There is no single set of right answers to these questions.

Answers will depend upon the kinds of information needed, the particular types of students about which information is needed, and the analytical resources available to the institution to accomplish this study. For example, most cohort-tracking studies focus quite properly upon degree-seeking students, and exclude from the analysis all not pursuing degree programs. Because most nondegree students are enrolled for only short periods of time, and because in some types of institutions there are often a large number of them enrolled, considerable labor can be saved by leaving them out of a tracking database. If a major question raised by administrators, however, is how and whether current nondegree students can be effectively induced to enroll in degree programs, there is a strong case for tracking all students regardless of entry status.

Once established, ongoing cohort-tracking studies can help provide the answers to many common questions. Most importantly, cohort studies are the only reliable method of actually determining an institution's gross attrition rate. Term-to-term comparisons of total enrollment by class or level are often termed "attrition" studies. These comparisons, however, are based upon aggregate enrollment counts and are consequently subject to changes in all the gain and loss elements of the total student pipeline. Only a method that tracks the enrollment history of each individual student can produce a valid overall attrition statistic for a program or institution.

Furthermore, it is only through such a procedure that complex enrollment sequences can be discovered and assessed. As discussed in the previous chapter, stop-out patterns in which students interrupt their enrollment for one or more terms are increasingly common. Such patterns, often compounded by shifts from part-time to full-time status, can completely invalidate aggregate methods for estimating attrition.

Once data from an identified cohort have been collected, the results must be compiled in such a way that they are immediately useful to institutional policymakers. Most cohort-tracking efforts report the "survival" of the cohort after a certain number of terms have elapsed. For example, a community-college entering cohort might be assessed after four terms—the minimum length of time theoretically required to complete the longest program—or after six or more terms. Other kinds of institutions would probably choose longer tracking periods. Again, there is no single right answer about how long to track a given cohort. A good rule of thumb, however, is to report results after a time period has elapsed such that no more than one-quarter of the original entering group remains actively enrolled at the institution.

A second important point is that cohort-tracking results should be displayed in such a way that comparisons among different student subpopulations are immediately apparent. Most attrition research has uncovered substantial differences in the enrollment patterns of different demographic groups, and often among different programs as well (Sheldon and Grafton 1982). Attrition is often viewed by administrators as a one-dimensional problem. Displaying the distinct enrollment patterns typical of different kinds of students may, in contrast, enable targeted retention programs to be developed around the known differences in behavior of particular student subpopulations. As chapter 5 will emphasize, such targeted programs have proven to be far more effective than more general institutionwide programs.

Table 5 provides an example of a typical report from a cohort-tracking system. The breakdowns by student subpopulation included in this table are what was deemed important for this institution; many others might have been possible.

### Using SOIS Questionnaires in Student Tracking

Simple cohort-tracking studies can provide administrators the most basic information about student attrition at a particular institution. This information includes the overall attrition rate, the particular student subpopulations experiencing high or low rates of attrition, and patterns of enrollment in particular institutional programs. While critical, such studies tell the administrator relatively little about why such patterns of attrition occur and what can be done about them. Questions such as these can only be answered through surveys administered to students while currently enrolled, and if and when they withdraw.

The six questionnaires that make up the SOIS system are explicitly designed to be administered in conjunction with an ongoing student-tracking effort. Figure 3 illustrates the typical flow of students through colleges and universities and shows the six data-collection points covered by SOIS instruments:

- As a student enters
- While a student is enrolled
- After a student leaves without graduating or completing a formal program
- As the student completes a program or graduates
- Three months to one year after completion or graduation
- Three to five years after completion or graduation

Timing the administration of SOIS questionnaires so that the cohorts of students identified for tracking are administered questionnaires as they progress through the institution can considerably enhance the database upon which retention research must rest. For example, if data on student goals, aspirations, and perceptions of the institution are collected on entry, they may be correlated with

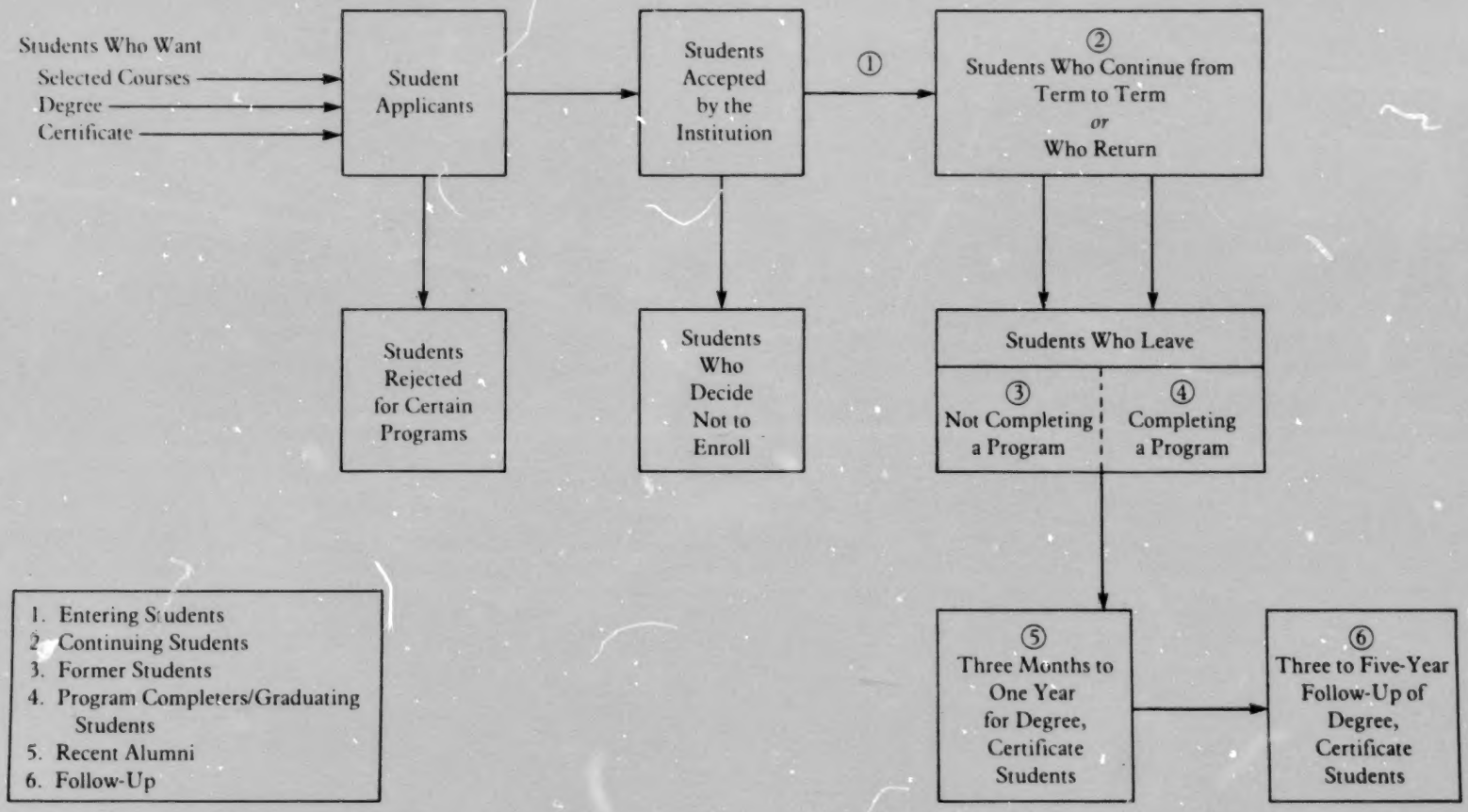
TABLE 5

ENROLLMENT STATUS BY DEMOGRAPHIC GROUP

| GROUP | N | STUDENTS WITHOUT DEGREE | | | STUDENTS WITH DEGREE | |
|---|---|---|---|---|---|---|
| | | Still Enrolled | Dropped Out | 1st Trimester Only | Still Enrolled | Not Enrolled |
| Degree-Seeking Students: | | | | | | |
| Sex: | | | | | | |
| Male | — | % | % | % | % | % |
| Female | — | | | | | |
| Age: | | | | | | |
| Under 25 | | | | | | |
| 26-34 | | | | | | |
| 35-44 | | | | | | |
| 45-54 | | | | | | |
| 55-64 | | | | | | |
| Over 64 | | | | | | |
| Ethnic Groups: | | | | | | |
| White, Non-Hispanic | | | | | | |
| Non-White | | | | | | |
| Prior College Type: | | | | | | |
| 2-Year Public | | | | | | |
| 2-Year Private | | | | | | |
| 4-Year Public | | | | | | |
| 4-Year Private | | | | | | |
| Time of Attendance | | | | | | |
| Day | | | | | | |
| Evening | | | | | | |
| Student Intent: | | | | | | |
| Subtotal | — | % | % | % | % | % |
| Nondegree Students: | — | % | % | % | % | % |
| TOTAL | — | % | % | % | % | % |

FIGURE 3

STUDENT-OUTCOMES DATA-COLLECTION POINTS FOR COLLEGES AND UNIVERSITIES


Students Who Want
Selected Courses
Degree
Certificate
Student Applicants
Students Accepted by the Institution
①
② Students Who Continue from Term to Term or Who Return
Students Rejected for Certain Programs
Students Who Decide Not to Enroll
Students Who Leave
③ Not Completing a Program
④ Completing a Program
1. Entering Students
2. Continuing Students
3. Former Students
4. Program Completers/Graduating Students
5. Recent Alumni
6. Follow-Up
⑤ Three Months to One Year for Degree, Certificate Students
⑥ Three to Five-Year Follow-Up of Degree, Certificate Students

SOURCE: Peter T. Ewell, *Student-Outcomes Questionnaires: An Implementation Handbook*, Second Edition (Boulder, Colo.: NCHEMS, 1983), p. 14.

later enrollment patterns. Questionnaire responses on the entering- and continuing-student questionnaires of persisters and of withdrawing students can be compared to determine if differences in initial attitudes and perceptions might have been responsible for withdrawal. Furthermore, responses on former-student or alumni questionnaires can help administrators determine the degree to which students who left the institution think that they have met their educational goals. Such responses can help clarify the proportion of students who withdraw due to "institutional failure."

In fact, several institutions are using responses to the Entering-Student Questionnaire to help *predict* student attrition (Bishop 1984). Based upon past student-tracking studies where both questionnaire and enrollment data were collected, researchers at these institutions have identified the patterns of response that identify "high-risk" students. The results have then been passed on to counselors and advisors to aid them in targeting individual students for special attention.

When using SOIS questionnaires in conjunction with cohort-tracking studies, questionnaire administration cycles and sampling procedures should be designed to correspond with the entrance of particular cohorts and with the tracking period established for reporting statistics on cohort survival. Ideally, Entering-Student Questionnaires should be administered at time of matriculation to every student in an identified cohort. This would imply, for example, that if every other fall entering class was identified for tracking, all members of these classes would also complete the Entering-Student Questionnaire. Similarly, the survivors of each cohort would be identified a year after entry and administered the Continuing-Student Questionnaire.

If the number of students in a given entering cohort is extremely large, a sampling procedure may provide an efficient alternative to surveying every student. Care must be taken, however, to ensure that a representative sample is obtained and that the students originally identified as members of the sample are recontacted to obtain their responses to later questionnaires. Sampling procedures also have the disadvantage that they will not ordinarily allow meaningful comparisons between students in different programs unless the programs compared have particularly large enrollments. In fact, it is probably better to administer questionnaires to selected complete entering cohorts (perhaps every other or every third year, for example) than to a small sample of every cohort to be tracked. For a more complete discussion of sampling and administration cycles associated with SOIS, see chapter 2 of *Student-Outcomes Questionnaires: An Implementation Handbook,* Second Edition (Ewell 1983b).

# 4

# Conducting Former-Student Surveys

This chapter provides guidelines for administering a mailed survey using the SOIS Former-Student Questionnaire to students who have dropped out, stopped out, or transferred. These guidelines are based on recommended survey-administration practices as well as the experience gained from conducting pilot-test attrition studies at a number of institutions. The chapter's purpose is not to prescribe rules for conducting attrition surveys but rather to suggest procedures and to identify potential problems and their possible solutions. Institutions differ from one another, and variations in institutional needs and problems will almost certainly require deviation from the guidelines offered.

Most importantly, institutions should not see administration of a survey to students who have dropped out as a stand-alone exercise. As stressed in the previous chapter, data gathered from former students by the methods described in this chapter are at their most useful when viewed in the context of attrition statistics provided through a cohort-tracking study and when the responses to the questionnaire can be directly compared with similar responses obtained from graduates or currently enrolled students. One of the most common mistakes to be made in conducting student-attrition studies is to simply survey former students and to assume that their attitudes are distinctive. Many misinformed institutional retention efforts have resulted from this mistake, and it is a critical one to avoid (Terenzini 1982).

**The Questionnaires**

The two forms of the SOIS Former-Student Questionnaire (for community-college students and for four-year college and university students) are shown in appendix A. Although these questionnaires have essentially the same content, they have been tailored to the two-year or four-year student target group. Each SOIS questionnaire contains:

- An optional personal identification section (name, address, telephone, and student identification number)
- Demographic background questions (sex, ethnic category, age, marital status, handicap status, and length of attendance at the college)
- A set of questions about goals and achievements in attending college
- A set of questions about attendance at the college
- A set of questions about student reasons for leaving
- Questions about degree of satisfaction with various college services
- A question on plans for additional education
- Optional local items (up to 15 questions that the administering institution may add)
- A space for written comments from students

Users of the SOIS Former-Student Questionnaires have occasionally questioned the necessity of items (such as sex, race/ethnic group, grade-point average) that request information already contained in most institutional master files. Eliminating such items would shorten the questionnaires and perhaps improve response rates. Nevertheless, these items are included in the standard SOIS Former-Student Questionnaires because:

- The institutional master file may not include all such items for all students
- The institutional master files may be outdated for some students
- Even if the data are complete and up-to-date, it may be administratively impossible for the survey researcher to obtain access to the master file
- Some institutions may wish to administer the questionnaires anonymously and consequently cannot access the master file for matching

Institutions may wish to add local items to the standard SOIS Former-Student Questionnaires so that they can collect information relevant to their particular situations. In each questionnaire, spaces have been set aside that allow respondents to record their answers for up to 15 locally developed items. In general, the process for adding local items to the Former-Student Questionnaire involves three steps:

1. Local items are developed. (There can be no more than nine responses to any single item, if the institution plans to use the NCHEMS/College Board Questionnaire-Analysis Service. Keypunching and methods of analyzing responses make this requirement necessary.)
2. Specific instructions are written that tell respondents how to record their answers to each local item in the appropriate space in the SOIS Former-Student Questionnaire.
3. The attachment that includes the instruction and the local items is printed and attached to the SOIS Former-Student Questionnaire.

Local items are often useful in identifying particular areas of student dissatisfaction or to probe the needs of particular student populations that have experienced high attrition rates. A guide to developing local items for SOIS questionnaires is provided as appendix C of *Student-Outcomes Questionnaires: An Implementation Handbook,* Second Edition (Ewell 1983b).

The Former-Student Questionnaires themselves can be obtained by using the order form at the end of this book or by writing to NCHEMS Publications, P.O. Drawer P, Boulder, Colorado 80302, and requesting the type and number of each questionnaire needed. NCHEMS and the College Board make the SOIS Former-Student Questionnaires and the other SOIS student questionnaires available in bulk at a price that covers the cost of printing and mailing. Questionnaires are shipped within five days of receipt of an order. (See the order form for specific cost information.)

**Identifying Questionnaire Recipients**

If an institution has established a cohort-tracking system as described in chapter 3, identification of withdrawing students is a straightforward exercise. Student identification numbers for students no longer enrolled and not graduated can be pulled from the cohort-tracking files, and their last known addresses can be obtained from the student database. If an institution has not established such a tracking system, or if it wishes to survey *all* dropouts—not just those from the cohorts identified for tracking—more complex procedures must be used. These procedures will vary according to the method of institutional record keeping. What kinds of records are kept may depend on the:

- Degree of automation
- Withdrawal procedures for students
- Length of time into the next term before dropouts from the previous term can be identified
- Accuracy and extent of records related to withdrawals and nonreturning students

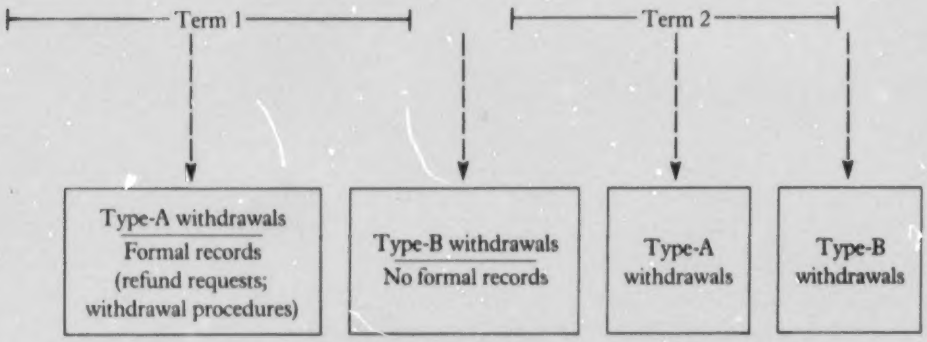
In most institutions, there will be two kinds of nonreturning students: Type A—those who register for a term and either fail to attend classes or attend classes only for a short period of time and then withdraw; and Type B—those who finish one term and fail to register or return for the next term. Most institutions keep some type of records on Type A students because of tuition-refund requests and the standard withdrawal procedures that students are required to follow. Few institutions, however, keep records on students who do not reenroll between terms (Type B withdrawals). Figure 4 illustrates the cycle of nonreturning students over two terms.

Most institutions fall into one of three categories with respect to the degree of computerization of student records:

1. All records are computerized, including registration information for each term and withdrawal information (rebates sent, withdrawal status, and so forth); that is, Type A and Type B withdrawals can be identified by computer.
2. No records are computerized; that is, all registration and withdrawal information is kept manually.
3. Some records are computerized and some are kept manually. Usually registration information is computerized and within-term withdrawal and rebate information is not; that is, Type B withdrawals can be identified by computer but Type A cannot.

FIGURE 4

CYCLE OF NONRETURNING STUDENTS




SOURCE: Cathleen Patrick, Edward Myers, and William Van Dusen, *A Manual for Conducting Student Attrition Studies*, Revised Edition (Boulder, Colo.: NCHEMS, 1979), p. 11.

Three dropout-identification strategies can be developed that correspond to these three categories:

1. All records computerized
   a. To identify within-term dropouts (Type A), print a list and create a new file of all students who have received a rebate after withdrawal, have a withdrawal-code indicator, or have any other institutional code indicating that they have dropped out.
   b. To identify between-term dropouts (Type B), match the registration file from the previous term against the registration file for the current term. Print a list and create a new file of all students who attended the previous term and who have not registered for the current term (excluding graduates). A new file of nonreturning students (excluding graduates) can be created by matching the new file of students who did not return between terms against the file containing a list of graduates from the previous term. Note that this procedure will not identify current term stop-outs. Institutions may wish to define dropouts as those not enrolled for two or more terms as an alternative to the above.
   c. If both types of dropouts are to be surveyed, merge and sort (by student identification number) the two files produced in steps 1a and 1b, after first eliminating any duplicate records for the same student.

2. No records computerized
   a. To identify within-term dropouts (Type A), compile a list from all available sources of students who can be determined to have withdrawn after registration. These sources might include deans' offices, where withdrawal forms are required for existing students; the accounting office, where students have requested refunds; and faculty members and student advisors.
   b. To identify between-term dropouts (Type B), obtain lists of registered students for the current and previous term(s). (Both lists should be sequenced similarly, either alphabetically or by student identification number.) Visually compare the two lists name by name, putting a mark by the names of students who enrolled for the previous but not the current term. Obtain a list of students who graduated in the previous term(s). (This list should be in the same order as the others.) Visually compare the list of graduates with the list of students from the previous term(s) who have marks by their names and indicate with some other symbol those who have failed to reenroll. Be sure to exclude those who graduated. All students so

identified should be listed in the same order as students identified in step 2a.

c. If both types of dropouts are to be surveyed, any duplicate names should be eliminated and the two lists from steps 2a and 2b should be combined into one list.

3. Registration records computerized; withdrawal and rebate information not computerized
   a. To identify within-term dropouts (Type A), follow procedure 2a.
   b. To identify between-term dropouts (Type B), follow procedure 1b. If a file for graduates from the previous term is not available, obtain a list (in the same order as the registration computer file) of those who graduated at the end of the previous term(s) and compare it visually to the printed list of between-term nonreturning students. Make a mark by the names of students who are graduates.
   c. If a computer master file exists containing student addresses, then all noncomputerized lists should be computerized by entering the list of graduated students' identification numbers and the list of students identified in step 3b. These files should then be matched against the address master file in the same run that the new file created in step 3a is matched against the address file. If both types of dropouts are to be surveyed, a final file should be created of between-term dropouts (who are not graduates) and merged with the file of students identified from other sources (in step 3b) as within-term dropouts.
   d. If a computer master file containing student addresses does not exist, all information should be converted to lists. If both types of dropouts are to be surveyed, the computer printout from step 3a should be merged with the list from step 3b, after first eliminating any duplicate names.

The minimum information needed from the master file about each dropout, once identified, consists of name, the term and year of withdrawal, and an off-campus address. This address may be the student's forwarding address or that of a parent. Additional information from the master file may be useful in analyzing data. This includes the student's sex, ethnic category, grade-point average, and major field. Information of this kind can be used in:

- Filling in missing questionnaire responses
- Comparing characteristics of students who returned a questionnaire with characteristics of those who did not, in order to assess response bias (see chapter 5)

- Checking the accuracy of master-file information by comparison with more up-to-date survey responses

All information about dropouts (address, background information, date of withdrawal, and so forth) should be kept together for each student, regardless of the degree of automation.

### Sampling Guidelines

In every survey, staff must determine how many students to survey. There is unfortunately no definitive answer. In general, the survey administrator must strike a balance between cost considerations and statistical-analysis requirements. In attrition surveys, moreover, an additional factor—the anticipated response rate—acquires considerable importance. This is because response rates are usually much lower in attrition surveys than in surveys of graduates or currently enrolled students.

Many sophisticated statistical methods exist for estimating the size of the sample needed for good confidence in the reliability of results. These methods require that the survey administrator estimate the magnitude of response differences expected in the results. However, often it is impossible to estimate accurately these differences before administering the survey. As an alternative, we recommend that the survey administrator aim for a sample of at least 1,000 students. Small institutions may have to sample dropouts from several years to obtain a total sample of 1,000. If a sample that large cannot be obtained, 750 will still produce credible results. Any fewer may not yield enough returned usable questionnaires to sustain reliable conclusions. Large institutions, on the other hand, may easily attain a sample of 1,000 in a single term or year. Survey administrators of such institutions will have to decide whether to select a sample of 1,000 randomly from the population of dropouts or to survey all identified dropouts within a particular interval.

Two other factors are also important in determining sample size: statistical validity and response rate. If particular student subgroups such as ethnic groups, sex, and degree categories are to be analyzed separately, sufficient numbers of students within each group must be surveyed to provide statistically meaningful responses within each subgroup. What constitutes a sufficient size for a subgroup sample is difficult to determine. A minimum number of *returned usable* questionnaires would be about 30; a good number to aim at would be 50.

A decision must also be made about the number of previous terms from which students will be sampled. If a sufficient number of dropouts can be identified from the records of the most recent year, there will be little reason for sample from previous years. This is because response rates will probably be highest for the most recent dropouts and because the institution will be most interested in them. Some

institutions may have too few dropouts each year to constitute a good sample, however. In this case, the survey should include dropouts from the last several years to obtain a sufficiently large sample, given the expected low response rate.

It is generally *not* a good idea to survey dropouts from only one term. Students who drop out in a particular term may differ in several ways from those who drop out in another term. For example, students who leave between spring and fall terms often transfer to other institutions, while midyear and midterm dropouts leave more often for personal, emotional, or financial reasons. Even if enough students drop out in one term to constitute an adequate sample, the survey should include dropouts from each term throughout the year.

An additional problem is obtaining usable permanent-address records for former students. Usually from 10 to 20 percent of students either have foreign or invalid permanent addresses. Students with no permanent address (or with obviously incorrect or incomplete addresses) will have to be eliminated from the survey. When planning for a specific sample size, the survey administrator should remember that usually 10 to 20 percent of the sample may not receive a questionnaire because of an incorrect or incomplete address. If random sampling is used to obtain a final sample of 1,000 students, or if a school is combining dropouts from several years, the survey administrator should aim for an initial sample of 1,100 or 1,200 to compensate for the 100 to 200 students who may be eliminated from the survey because of incorrect or incomplete addresses.

### Cover Letters

Appendix D contains examples of cover letters suggested for the initial mailing of the questionnaire and for subsequent follow-up mailings to those who did not respond to the first mailing. These letters should be printed on institutional stationery and, if possible, be signed by the president. Both are suggested formats. If changes are made, however, several important points should be remembered.

- The initial letter should convey the importance of receiving a response from the student
- It should state that responses will be confidential
- It should reflect the awareness that students may have reenrolled and should assure the student that reenrollment will not be affected by receipt of the questionnaire.
- The initial and follow-up letters should both state whether the optional personal identification section is to be completed by the student
- If there are local items, the initial and follow-up letters should indicate this fact and describe any special instruction pertaining to these items
- The follow-up letter should reiterate the confidentiality of responses and the importance to the institution of receiving as many completed questionnaires as possible.

**Mailing Guidelines**

Initial mailing of questionnaires can begin as soon as a list of each student's identification number, name, and address is available. In assembling and preparing the materials for mailing, staff will:

1. Eliminate invalid, missing, or foreign address labels by marking an "X" through them. (If envelopes are typed, this should be done at the time of typing.)
2. Eliminate students with invalid, missing, or foreign addresses from the list of students.
3. Number in ink the self-addressed return envelopes, in the lower left-hand corner of each envelope, beginning with 0001 and ending with the number of valid student addresses in the sample. The numbers will be used to keep track of who has responded and who has not.
4. Number the list of each remaining student who has a valid address with the same consecutive numbers as in step 3. Steps 3 and 4 ensure that returned questionnaires with incorrect or insufficient identifying information can be matched with the student's name and identification number if desired. As an alternative to numbering from 0001 to the number in the sample in steps 3 and 4, one could eliminate step 3 and simply write the student's identification number on the return envelope. The advantage of using the identification number is that no intermediate step is required to match the return envelope with the student if a questionnaire is returned without identifying information. A disadvantage is that students may be disturbed to see their identification number written on the return envelope. (Use of the identification number may also raise legal questions.) Thus we recommend that the consecutive numbering system be used. The purpose of this number can be stated in the cover letter.
5. Put folded questionnaire, cover letter, and return envelope in each mailing envelope. Stamp mailing envelope PLEASE FORWARD.

After the initial mailing, a set of tracking sheets should be prepared for recording the status of returned questionnaires. Figure 5 shows a sample tracking sheet. If institutional records are computerized or if names and addresses of students were keypunched to produce labels, the tracking sheets can be produced by computer; otherwise they must be typed. The tracking sheet should contain:

1. Student's identification number
2. Student's name
3. Student's address

FIGURE 5

TRACKING SHEET WITH EXAMPLE OF INSTITUTIONAL ENTRIES

| RETURN-ENVELOPE NUMBER | ID | NAME | ADDRESS | FIRST MAILING | | | SECOND MAILING | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Undeliverable | Unusable | Usable | Date Sent | Undeliverable | Unusable | Usable |
| 0001 | 0122356 | Mark Andrews | 314 W. 8th Ave.<br>Norfolk, VA 10823 | 2/9 | | | | | | |
| 0002 | 9262230 | Alice Byers | Apt. 3B<br>9815 Maryland Ave.<br>Los Angeles, CA 98122 | | | 2/15 | | | | |
| 0003 | 1135976 | Robert Davis | 213 E. 11th Street<br>New York, NY 10220 | | | | 2/29 | | | 3/15 |
| 0004 | 4399178 | Susan Ford | 91 Brand Drive<br>Rockaway, NY 11691 | | 2/11 | | | | | |
| 0005 | 2123947 | David Harris | 123 Table Mesa Drive<br>Boulder, CO 80303 | | | 2/11 | | | | |

SOURCE: Cathleen Patrick, Edward Myers, and William Van Dusen, *A Manual for Conducting Student Attrition Studies,* Revised Edition (Boulder, Colo.: NCHEMS, 1979), p.22.

4. Blank columns for recording the date the following are received:
   a. Materials returned by the postal service as undeliverable
   b. Unusable questionnaire (student ineligible, unable to respond, improperly identified as dropout, and so forth)
   c. Usable questionnaire
5. If other mailings are planned, blank columns for recording second and subsequent mailing information:
   a. Date second set of materials sent
   b. Date returned by the postal service as undeliverable
   c. Date unusable questionnaire or letter received (student ineligible or unable to respond)
   d. Date usable questionnaire returned

As questionnaires are returned, one person should be in charge of recording the information described above. An identifying mark should be made on each questionnaire as the proper information is recorded on the tracking sheets. If possible, the person who records the information should also open the envelopes to ensure that questionnaires with insufficient identifying information can be matched with the student's correct name and identification number. All returned materials (even undeliverable questionnaires) should be saved until the end of the survey.

Procedures for conducting a follow-up mailing are identical to those for the initial mailing. A second cover letter should, however, be prepared for the follow-up. A new set of materials should be sent to each student not responding to the first mailing and not identified as having a bad address. The date the second mailing is sent should be recorded for each student, and responses should be recorded on the tracking sheet.

Institutions with a primarily local clientele might also consider a telephone follow-up. In a telephone follow-up, staff call each student in the sample about one week after the initial mailing to ask (in a positive manner) if he or she received the questionnaire and if he or she has any questions. The caller can also emphasize the importance of the survey and urge the student to return the questionnaire.

Follow-up materials should be sent when the frequency of responses from the first mailing begins to drop. For example, if each day about 20 questionnaires are returned, then 10, then 2, one can safely assume that the response peak has passed and the second mailing can begin. This point will usually be reached about three to four weeks after the initial mailing. If the survey administrator wants to distinguish late responses from the first mailing from responses to the second mailing, the questionnaire for the second mailing can be printed on a different color paper. This may be useful in determining if responses to the different mailings were biased.

## Costs, Materials, and Personnel for Administering Questionnaires

Figure 6 shows a list of materials required for the initial contact in mail surveys, along with their estimated costs. Costs are based on an initial contact of 1,000 students; surveys of larger or smaller numbers of students should involve costs that are approximately proportional to those shown. Most costs in figure 6 are self-explanatory, except perhaps the first-class mailing expense. Research indicates that personalizing the survey materials generally increases the response rate. In particular, studies show that using first-class postage, particularly commemorative stamps, can be especially effective in increasing response rates (Hensley 1974; Champion and Sear 1969). Because a good response rate is important, the added expense of first-class postage on the outside mailing envelopes over bulk rate is often justifiable. First-class mail has the added advantage of being forwarded by the post office.

One study (Rossman and Astin 1974) indicates that use of nonprofit permits on the outer envelope combined with a follow-up mailing using first-class postage yields response rates only 2 to 3 percent less than using first-class postage on the initial mailing. Thus, an institution should consider using nonprofit-permit postage on the outer envelope and first-class postage on a second mailing only for those questionnaires returned undeliverable by the post office. There will probably be increased personnel time (and a slower overall response time) required to monitor the returned envelopes and addresses and to send out new questionnaires, but for many colleges, extra staff time is more readily available than extra funds.

Other mailing costs not shown in figure 6 are those required for either typing names and addresses of students on the envelopes or for generating and affixing computer-printed names and address labels. These costs vary depending on the institution but should certainly be included in cost estimates for the survey. At least one study (Carpenter 1974-75) showed that personalizing the cover letter by manually typing names and addresses increased the response rate over computer- or machine-produced names and addresses. Thus, if all other factors are equal, typing students' names and addresses is preferred. But if the institution can produce the computer-generated labels at a substantial savings and is looking for ways to cut the cost of the survey, computer-produced labels are a reasonable alternative.

Much experience shows that a single follow-up mailing can substantially increase the number of returned questionnaires (by 50 to 70 percent) but that returns from additional follow-up mailings diminish significantly (Dillman 1982). Nevertheless, some institutions may decide not to send any follow-up materials, primarily for budgetary reasons. Materials and costs for a follow-up mailing of questionnaires are proportional to those for an initial mailing. Thus the cost of a second mailing to 800 students will be about 80 percent of the initial mailing to 1,000. These calculations are based on the assumption that subsequent mailings include a complete set of materials. This procedure generally produces a higher rate

FIGURE 6

ESTIMATED COSTS OF MATERIALS FOR INITIAL MAIL CONTACT OF 1,000 STUDENTS

| MATERIALS | NUMBER** | EXPLANATION | ESTIMATED COSTS* | |
|---|---|---|---|---|
| | | | First-Class Mail | Nonprofit Permit Mail |
| Questionnaires | 1,000 | Estimated at $.15 | $150.00 | $150.00 |
| Cover Letters | 1,000 | Printed on official stationery (.06/sheet) | 60.00 | 60.00 |
| Return Envelopes (Size No. 9) | 1,000 | Business-reply return envelopes<br>(a) Printing costs (.065 each)<br>(b) Postage costs at $.25 each × 300 returned | 65.00 | 65.00 |
| Mailing Envelopes (Size No. 10) | 1,000 | Standard business size (.065 each) | 65.00 | 65.00 |
| First-Class Postage | 1,000 | First-class commemorative stamps at $.20 each | 200.00 | |
| Nonprofit Permits | 1,000 | (a) Nonprofit permits at $.059 each | | 59.00 |
| First-Class Postage for Undeliverables | | (b) Estimated 10 percent undeliverables at $.25 each | | 25.00 |
| TOTAL | | | $615.00 | $499.00 |
| Per-Student Contact Costs | | | $ .62 | $ .50 |
| Per-Student Response Costs (estimating 300 responses) | | | $ 2.05 | $ 1.66 |

*As of 1983

**Estimated costs for more or fewer than 1,000 students should be approximately proportional.

SOURCE: Peter T. Ewell, *Student-Outcomes Questionnaires: An Implementation Handbook*, Second Edition (Boulder, Colo.: NCHEMS, 1983), p. 36.

of response than a postcard reminder. Second and subsequent mailings will also require preparation of a new cover letter, as explained above.

Costs involved in undertaking follow-up activities for nonrespondents will vary with the type of activity chosen. Figure 7 presents approximate follow-up costs for the three follow-up strategies discussed above, based upon a 35 percent return to the initial mailing. These costs should be added to those in figure 6 to obtain an approximate cost for total administration.

The other costs incurred in conducting a survey are primarily personnel costs. It is difficult to put dollar amounts on these costs because they will vary from institution to institution depending on salaries and time invested. The following potential personnel requirements, given without estimated costs, should be considered:

- Survey administrator
- Secretarial time for typing local items and cover letters
- Computer personnel time for creating survey sample lists and address labels (or clerical time if lists are created by hand, plus typist time for typing envelope names and addresses)
- Approximately 20 hours of clerical time for stuffing and mailing 1,000 questionnaires
- Clerical time for recording, tracking, and editing returned questionnaires
- Report-writer's time
- Secretarial time for typing reports

In many ways, survey administration is more an art than a science. Each institution should not be afraid to experiment with new techniques devised within the guidelines above that are appropriate to its data-collection plan. At the same time, it is important that all of the issues treated in the previous two chapters be covered in some way and that alternatives to the above procedures be examined carefully before they are implemented. (Appendix B contains a summary survey-administration planning chart of all activities an institution must accomplish to effectively administer an SOIS survey.)

FIGURE 7

ESTIMATED COSTS OF MATERIALS FOR TWO TYPES OF FOLLOW-UP MAILINGS TO 700 STUDENTS

| MATERIALS | NUMBER** | EXPLANATION | ESTIMATED COSTS* | |
|---|---|---|---|---|
| | | | First-Class Mail | Nonprofit Permit Mail |
| Questionnaires | 700 | Estimated at $.15 | $105.00 | $105.00 |
| Cover Letters | 700 | Printed on official stationery (.06/sheet) | 42.00 | 42.00 |
| Return Envelopes (Size No. 9) | 1,000 | Business-reply return envelopes | 45.50 | 45.50 |
| | | (a) Printing costs (.065 each) | | |
| | | (b) Postage costs at $.25 each × 200 returned | 50.00 | 50.00 |
| Mailing Envelopes (Size No. 10) | 700 | Standard business size (.065 each) | 45.50 | 45.50 |
| First-Class Postage | 700 | First-class commemorative stamps at $.20 each | 140.00 | |
| Nonprofit Permit | 700 | At $.059 each | | 41.30 |
| TOTAL | | | $428.00 | $329.30 |
| Per-Student Contact Costs | | | $ .61 | $ .47 |
| Per-Student Response Costs (estimating 200 responses) | | | $ 2.14 | $ 1.65 |

*As of 1983

**Costs in this figure based on an initial return of 300 questionnaires, leaving 700 for the second mailing.

SOURCE: Peter T. Ewell, *Student-Outcomes Questionnaires: An Implementation Handbook,* Second Edition (Boulder, Colo.: NCHEMS, 1983), p. 38.

# 5

# Applying the Results of Attrition Studies

Attrition studies are of little value if the institution does not take action on the basis of the results. Unfortunately, it is common for institutions to collect data about student attrition but never to effectively utilize the information gathered. Often this is a product of the way data are reported. As will be emphasized, in order to be effectively used by administrators, data reports should be short, succinct, and problem directed. Often, however, data are underutilized because taking the appropriate steps requires *collective* action on the part of the institution. Effective utilization of the results of retention research may thus involve creating a campuswide committee to consider the implications of such research. The purposes of this final chapter are to allow those conducting attrition studies using SOIS to assess the quality of the data obtained, to suggest appropriate ways these data can be put into a form suited to the needs of administrators, and to give examples of the kinds of institutional retention programs that can be developed as a result.

## Assessing the Quality of Survey Data

Generally speaking, the quality of survey data is based upon two factors: the quality of the survey instruments used and the absence of response bias among those actually completing the questionnaires. The SOIS Former-Student Questionnaires, like all the instruments in the SOIS system, have been carefully constructed and extensively field tested to minimize inaccuracies and biases due to a respondent

misreading or misunderstanding questions or instructions. Nevertheless, questionnaires should be carefully edited as they are received in order to assess the degree to which students have responded appropriately.

A far more important potential problem for those using surveys is response bias. Response bias exists when those who choose to respond to a questionnaire survey differ systematically from the total sample to whom questionnaires were sent. Generally, response bias operates so that actual respondents tend to be more concerned, more interested, or more enthusiastic than those who choose not to respond to a survey. Respondents also may have stronger views and may have more positive feelings in general than those who do not respond.

There are two general approaches in survey research to the problem of assessing response bias. One is to isolate a small random sample of those who do not respond to the survey and to try to get valid responses from them through personal contact or interview. These can then be compared with the responses of those who originally returned questionnaires. Primarily for cost reasons, this approach usually is not feasible in any but the largest surveys. Another approach, which can easily be done in a small survey, is to examine the characteristics of respondents and nonrespondents using demographic/background data available in the institutional master-file records. Though this approach is technically less valid, it can produce useful insights into the response-bias question. Typically, institutions have in their records much information in terms of which respondents and nonrespondents can be compared. This information includes:

- Age
- Degree originally sought
- Major field
- Grade-point average
- Number of terms enrolled
- Date of withdrawal (if appropriate)

Assessing differences between respondents and nonrespondents for these types of characteristics can be made by comparing percentages and means for the two groups. Comparison might reveal, for example, that 56 percent of the respondents are women, 49 percent of the nonrespondents are women, and the average age is 19 for respondents and 22 for nonrespondents. In many cases, the differences may be negligible between the two groups, indicating little response bias at least in terms of the *characteristics* on which the students were compared. In some cases there will be moderate to substantial differences between respondents and nonrespondents. The important point in investigating the response-bias question is to document any differences between the two groups and to cautiously interpret questionnaire results to the extent that it is believed respondents may represent a biased group.

Among those doing survey analysis, the question is often asked, What constitutes a good percentage of response to a questionnaire survey? As the above

discussion should indicate, there is no simple answer to this question. A 50 percent response to a given questionnaire may be less representative than a 35 percent response, depending upon the characteristics of those responding and those choosing not to respond. Generally speaking, a high response rate is better than a low one in minimizing the problems associated with response bias, and response rates of less than 25 percent should be treated with extreme caution. At the same time, whatever the response rate obtained, there is no substitute for a careful assessment of response bias.

### Reporting the Results of Attrition Studies

Even when different kinds of data on student attrition are properly collected, they are frequently not in the proper format to be of immediate use to decisionmakers. The primary method used to disseminate such data is in terms of a report on the results of a particular data-gathering effort. Each time a body of students is surveyed, the results are presented as a distinct report to administrators—often paying little or no attention to the important *relationships* among studies. Such reports can be said to be methodology driven rather than problem driven. One of the first tasks in effectively utilizing attrition data is thus to integrate the findings of numerous individual studies to create an overall portrait of the retention problem at a given institution.

Subtle and sensitive interpretation is sometimes required to effectively integrate fragments of information—often by themselves of little significance—into a single coherent picture of a phenomenon. One such exercise, assembling the results of numerous attitudinal studies of currently enrolled students and integrating them with tracking-study results on the attrition patterns of different kinds of students, has already been mentioned, and it can be particularly effective. However, much of the process of reorganizing existing material merely involves simplifying data presentations to highlight major trends, to emphasize comparisons, and to eliminate extraneous material.

Figure 8, for example, graphically indicates the results of a student-flow study to highlight the issue of minority-student retention. Table 6 presents results of an attitudinal study within a particular department; this format is designed to highlight the ways in which key survey responses were similar to or different from obtained institutional averages.

A second useful approach to presenting the results of retention studies is to organize data-presentation formats around identified issues and target populations. A common misperception in designing retention programs is that all students experience the same kinds of problems. On the contrary, most research has shown that the reasons for withdrawal may be very different depending upon which subpopulation of students one is talking about. A range of retention programs, targeted at the particular needs of identified student subpopulations, is often considerably more effective than a single general program directed at all students. Appendix E

TABLE 6

SUMMARY OF SURVEY OF NONRETURNING STUDENTS

College/School: *Social Welfare*

| Reasons for Not Continuing Enrollment | Unit Compared to Campus* | | | Campus Average |
|---|---|---|---|---|
| | Below Average | Average | Above Average | |
| Academic Reasons: | | | | |
| Achieved my academic goals | | | 47% | 36% |
| Transferred to another college | | | 41% | 27% |
| Needed a break from college | 9% | | | 18% |
| Courses/programs I wanted not available | | 26% | | 24% |
| Dissatisfied with my academic performance | 4% | | | 11% |
| Dissatisfied with quality of teaching | | 17% | | 14% |
| Dissatisfied with the learning environment | | 13% | | 12% |
| Unsure of my academic goals | 22% | | | 31% |
| Personal/Financial Reasons: | | | | |
| Achieved my personal goals | | 43% | | 46% |
| Accepted a job or entered the military | | 34% | | 31% |
| Did not have money to continue | | 22% | | 27% |
| College experience not what I expected | 11% | | | 22% |
| Few people I could identify with | 3% | 15% | | 19% |
| Moved out of the area | | 28% | | 26% |
| Could not work and go to school at the same time | | | 39% | 31% |
| Other responsibilities too great | | 42% | | 43% |
| Enrolled or plans to enroll at another college | | | | 41% |

Number of respondents: 87
Number of potential respondents: 123

*Assignment to "below average," "average," or "above average" category based on test of significance ($p<.10$) of difference between unit percentage and that of all other respondents combined. When difference is nonsignificant, percentage is given in "Average" column.

SOURCE: Developed in the NCHEMS/Kellogg Student Outcomes Project.

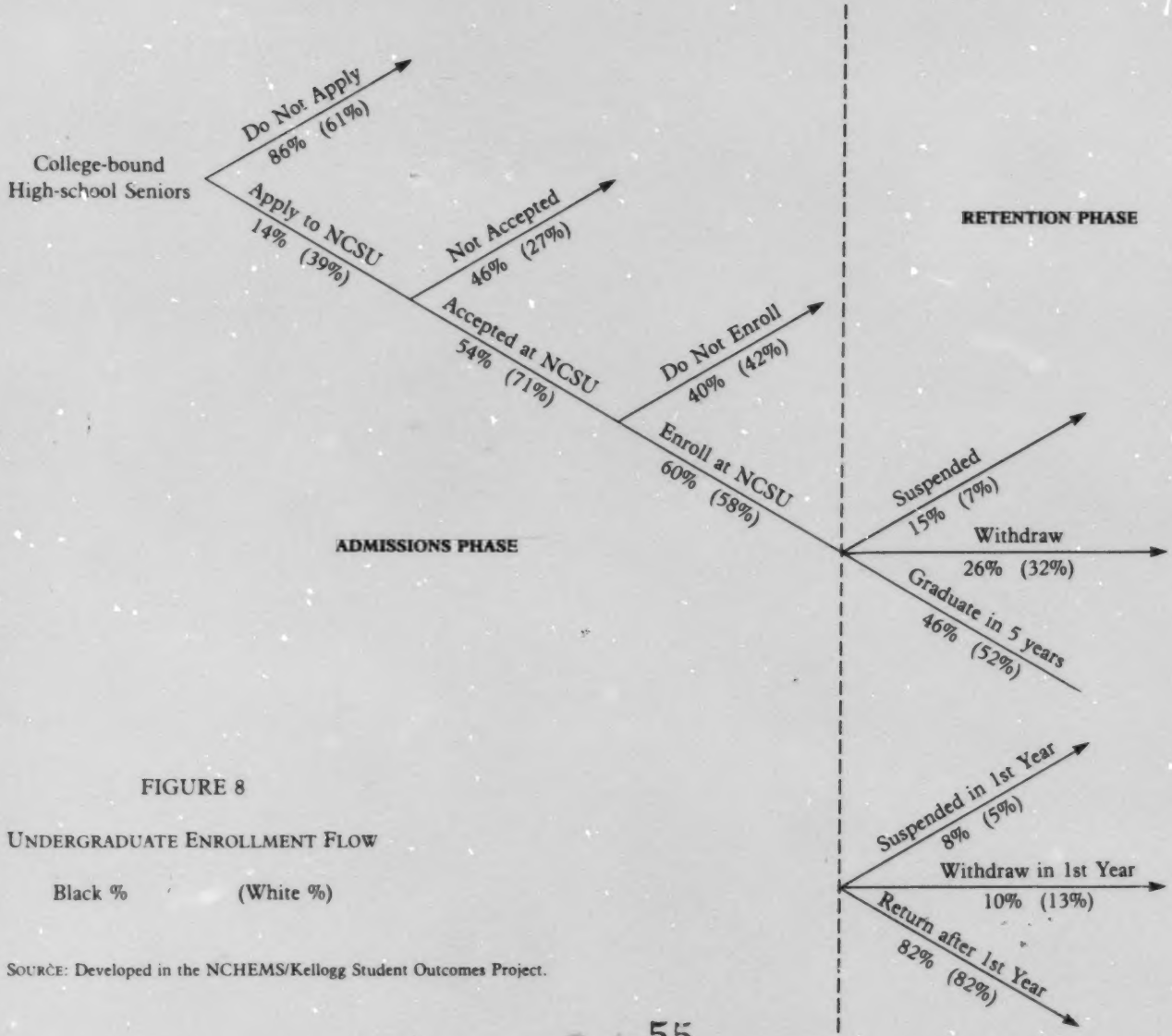



FIGURE 8

UNDERGRADUATE ENROLLMENT FLOW

Black % (White %)

SOURCE: Developed in the NCHEMS/Kellogg Student Outcomes Project.

provides an example of a retention research report focused on the needs of particular identified student subpopulations.

Preliminary discussion and review of retention research findings by a campus-wide committee can also be greatly valuable. Indeed, much of the literature on developing effective retention programs stresses the importance of the increased campus involvement provided by groups of this kind (Noel 1982). There are a number of reasons why retention committees are of value. Most important, probably, is the fact that a single forum for discussing issues of student success and failure is almost never present in higher-education institutions. Moreover, the very structure of most institutions tends to preclude such discussion on a regular basis. Administrators thus seldom have the opportunity to view the institution as the student sees it—as a total environment composed of many interlocking parts. Putting available data on retention and attrition in front of a committee whose members are drawn from throughout the institution is probably the best way to make sure that all sides of the student experience are covered and taken into account when analyzing the data (Astin 1976). Such committees are often composed of decisionmakers in their own right—individuals able to make immediate changes in their own units if the data seem to imply that changes are warranted. Such changes can take place regardless of the content or outcome of committee discussion. Finally, of course, committee structures are part of the common flora and fauna of university life. In spite of the standard reaction "Not another committee," such bodies do symbolize administrative concern and institutionalize efforts that otherwise would be extremely difficult to focus in a complex, decentralized environment.

Providing useful reports of the results of retention studies takes time and experience. The time spent and experience acquired, however, will pay considerable dividends if the result is more effective student-retention programs.

## Using Data in Developing Student-Retention Programs

Student-tracking studies and the results of current and former-student surveys—if reported effectively—can have a direct impact on programming and decisionmaking.

Comparisons of the responses of graduates and former students may, for example, reveal considerable differences in academic and personal goals, as well as different perceptions of and satisfaction with the institution. Both kinds of information are highly useful in planning and implementing institutional retention strategies. A number of institutions are using results of student-tracking studies and former-student surveys to try to isolate a set of early warning signals of a student's impending decision to leave the institution (Siryk 1981). High-risk students can thus be identified at an early stage and be given special attention by counselors and advisors. Similarly, many institutions are using current- and former-student surveys to determine the levels of use of particular student services by dropouts and by persisters. If dropouts are not aware of, and not using, or are not satisfied with a

TABLE 7

ACTION PROGRAMS BY RETENTION IMPACT AND GENERAL IMPACT

| | RETENTION INDEX | | GENERAL INDEX | |
|---|---|---|---|---|
| | N | | N | |
| New policies, structures | 11 | 3.64 | 26 | 3.92 |
| Learning, academic support | 115 | 3.45 | 199 | 3.83 |
| Orientation | 68 | 3.44 | 115 | 3.91 |
| Early-warning systems | 45 | 3.38 | 97 | 3.56 |
| Curricular developments | 6 | 3.33 | 13 | 3.92 |
| Multiple-action programs | 14 | 3.29 | 25 | 4.04 |
| Advising | 61 | 3.26 | 115 | 3.78 |
| Career assistance | 23 | 3.26 | 49 | 4.00 |
| Counseling | 18 | 3.22 | 30 | 3.80 |
| Peer programs | 9 | 3.22 | 31 | 4.13 |
| Dropout studies | 9 | 3.22 | 12 | 3.33 |
| Faculty/staff development | 10 | 3.20 | 25 | 4.00 |
| Other | 12 | 3.00 | 32 | 3.88 |
| Cocurricular activities | 4 | 2.75 | 20 | 3.70 |
| Exit interviews | 15 | 2.67 | 22 | 3.23 |
| All | 420 | 3.33 | 811 | 3.81 |

NOTE: Range of index is 2-5.

SOURCE: Philip E. Beal and Lee Noel, *What Works in Student Retention* (Iowa City, Iowa, and Boulder, Colo.: American College Testing Program [ACT] and National Center for Higher Education Management Systems [NCHEMS], 1980), p. 55.

particular service, efforts are made to improve its visibility and the dimensions of service provided.

Using attrition data to develop student-retention programs should be an institutionwide activity. Frequently the feeling is present on campus that retention is a student-services problem. In fact, most student-outcomes research has shown program quality and faculty contact to be among the major factors involved in retention (see Terenzini 1979). Research also has shown that the most effective retention strategies are institutionwide and have been developed with the full participation of all institutional constituencies—faculty, staff, students, and administration (Beal and Noel 1980). Once more, the importance of a committee with broad representation from all constituencies to review the retention implications of student-outcomes information cannot be overstressed. One public regional university has formally established such a committee in its governance structure, with the responsibility to make retention recommendations to the president on a regular basis. Reviewing and discussing the implications of a wide variety of student-outcomes information is one of the committee's primary tasks.

Although each institution will quite rightly develop its own retention programs based upon the characteristics of its students and the data available, it is useful to know the kinds of programs developed and termed effective by others. Table 7

presents results of the NCHEMS/ACT survey on *What Works in Student Retention* (Beal and Noel 1980). Results are reported in terms of the impact campus respondents felt each program had on the retention rate of the target group toward which the program was directed, and in terms of the program's general impact on campus. Interested readers are referred to the bibliography for numerous examples of effective campus retention programs.

## The Need for Communication: A Concluding Remark

A significant obstacle to the development of effective, informed student-success programs is the structure of colleges and universities themselves. Student persistence and achievement are not generally attributable to any one feature or program of the institution. Instead, they are the product of a complex set of factors, working together and cutting across all aspects of college and university life. Individual faculty members and administrators, however, do not usually deal with more than a single aspect of a given student's involvement in the institution—as a student in a particular class, as a candidate for financial aid, as an admissions exception seeking additional help in developing study skills, and so on. Furthermore, precisely because student persistence and success are rarely attributable to a single office or function, assessments of individual unit or program success are most easily (and probably appropriately) directed at the contents of the services delivered rather than at the effects these services produce. Because of its holistic nature, student success is everybody's business but not anybody's specific responsibility.

Dealing with this situation at any institution requires at least two kinds of initiatives—neither directly related to the amount and quality of information on student attrition and retention available. First, it requires a plain and visible commitment by top administration that the issue of improving student retention and success is a priority and that unit initiatives consistent with this priority will be rewarded. So long as the standard of managerial accountability remains efficiency rather than effectiveness, the likelihood of information about retention being utilized, regardless of its quality, remains low.

The second requirement is coordination and communication among the various efforts undertaken as a result of such a commitment. This requirement is perhaps most significant when mobilizing data resources. Each unit head must not only understand the *goals* of contemplated student-success programs but should also understand the potentially reinforcing or conflicting interrelations among the new policies affecting different units. Finally, the different units involved in achieving the goals of such programs must frequently share information—not only on what they are doing and plan to do but also on what they have learned individually about the factors determining successful outcomes for different kinds of students.

Only in the context of these two initiatives can student-retention programs at colleges and universities be expected to be truly successful.

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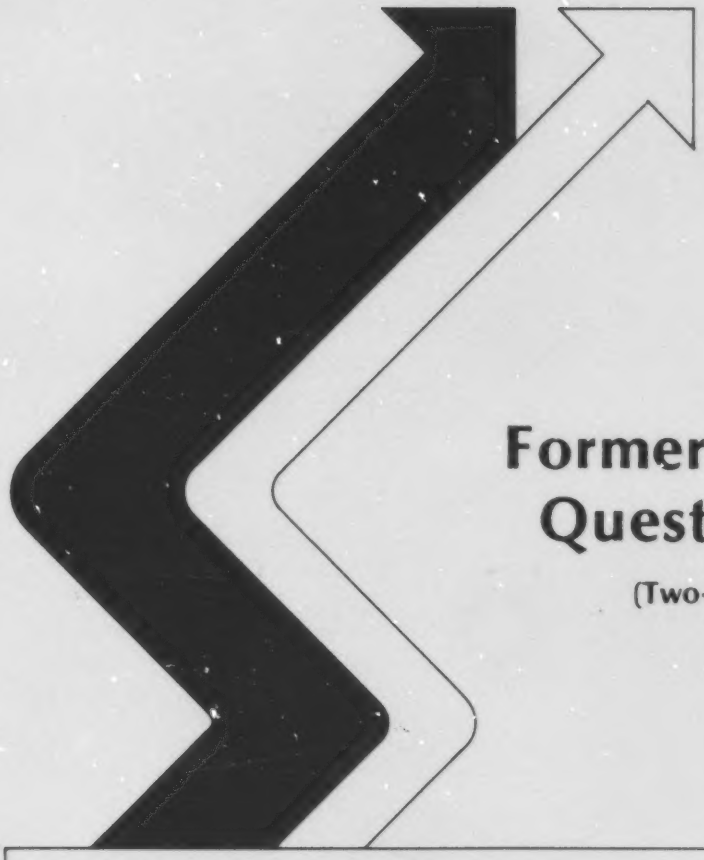
# APPENDIX A

## SOIS Former-Student Questionnaires



# Former-Student Questionnaire

## (Two-Year Institutions)

**PERSONAL IDENTIFICATION SECTION**

Do not complete this section unless you are asked to do so. *Please print.*

LAST NAME 1-12 FIRST NAME 13-20 MIDDLE INITIAL 21

ANY OTHER NAME WHICH MAY APPEAR ON YOUR SCHOOL OR COLLEGE RECORDS _____

STUDENT IDENTIFICATION NUMBER 22-30 TELEPHONE NUMBER _____ - _____

PERMANENT MAILING ADDRESS STREET AND NUMBER 31-55

CITY 56-70 STATE 71-72 ZIP CODE 73-77

National Center for Higher Education Management Systems
The College Board
Student-Outcomes Information Services

## STANDARD QUESTIONS SECTION

**INSTRUCTIONS:**

Specific directions are given for completing many of the questions in this questionnaire. Where no directions are given, please circle the number or letter of the most appropriate response, such as in the sample question below.

*Sample:*

4. Are you currently married?
   0 Yes
   (1) No

If you are not currently married, you would circle the number 1.

1. What is your sex?
78 — 0 Female
   1 Male

2. How do you describe yourself? *Circle one.*
79 — 0 American Indian or Alaskan Native
   1 Asian, Pacific Islander, or Filipino
   2 Black or Afro-American
   3 Hispanic, Chicano, or Spanish-speaking American
   4 White or Caucasian
   5 Other _____

3. How old are you?
80 — 0 Under 18
   1 18 to 22 years
   2 23 to 25 years
   3 26 to 30 years
   4 31 to 40 years
   5 41 to 50 years
   6 51 to 60 years
   7 61 years or more

4. Are you currently married?
81 — 0 Yes
   1 No

5. Do you feel that you have a permanent handicap? *Circle all that apply.*
82 — 0 No
83 — 1 Yes, restricted mobility
84 — 2 Yes, restricted hearing
85 — 3 Yes, restricted vision
86 — 4 Yes, but I prefer not to record it on this form
87 — 5 Other _____

6. How long did you attend our college?
88 — 0 One term
   1 One year
   2 Two years
   3 Three years
   4 Four years
   5 More than four years

7. The following statements reflect the goals of many college students. *In the first column, please circle the letters of those goals that were important to you when you attended our college. In the second column, circle the letters of those goals you feel you are achieving or have achieved as a result of your experiences at our college.*

| These goals were important to me | | These goals I am achieving or have achieved | | |
|---|---|---|---|---|
| | | | | **Academic Goals** |
| 89 | A | 90 | A | To increase my knowledge and understanding in an academic field |
| 91 | B | 92 | B | To obtain a certificate or degree |
| 93 | C | 94 | C | To complete courses necessary to transfer to another educational institution |
| 95 | D | 96 | D | Other _____ |
| | | | | **Career-Preparation Goals** |
| 97 | E | 98 | E | To discover career interests |
| 99 | F | 100 | F | To formulate long-term career plans and/or goals |
| 101 | G | 102 | G | To prepare for a new career |
| 103 | H | 104 | H | Other _____ |
| | | | | **Job- or Career-Improvement Goals** |
| 105 | I | 106 | I | To improve my knowledge, technical skills, and/or competencies in my job or career |
| 107 | J | 108 | J | To increase my chances for a raise and/or promotion |
| 109 | K | 110 | K | Other _____ |
| | | | | **Social- and Cultural-Participation Goals** |
| 111 | L | 112 | L | To become actively involved in student life and campus activities |
| 113 | M | 114 | M | To increase my participation in cultural and social events |
| 115 | N | 116 | N | To meet people |
| 117 | O | 118 | O | Other _____ |
| | | | | **Personal-Development and Enrichment Goals** |
| 119 | P | 120 | P | To increase my self-confidence |
| 121 | Q | 122 | Q | To improve my leadership skills |
| 123 | R | 124 | R | To improve my ability to get along with others |
| 125 | S | 126 | S | To learn skills that will enrich my daily life or make me a more complete person |
| 127 | T | 128 | T | To develop my ability to be independent, self-reliant, and adaptable |
| 129 | U | 130 | U | Other _____ |

SAMPLE

8. From the list of goals in question 7, please select the three that were most important to you when you attended our college. For example, if your most important goal was "To obtain a certificate or degree," enter the letter B in the first box.

Most Important ☐ 131 Second Most Important ☐ 132 Third Most Important ☐ 133

9. What degree were you seeking when you attended our college?

134
- 0 Not seeking a certificate or degree
- 1 Certificate of one year or less
- 2 Certificate of more than one year
- 3 Associate degree
- 4 Other _____

10. a. Please write in your major or area of study at our college.

_____

b. Now look at **List A: Majors and Areas of Study** and enter in the boxes below the code number of the category in which your major or area of study falls.

☐☐☐☐ 135-138

11. a. Was our college your first choice?

119
- 0 Yes
- 1 No

b. If no, what kind of college was your first choice?

140
- 0 A public two-year college
- 1 A public four-year college or university
- 2 A private college or university
- 3 A vocational/technical school, hospital school of nursing, trade school, or business school
- 4 Other _____

What was the name of the college that was your first choice?

_____

12. When you left our college, what was your overall grade point average (GPA)?

141
- 0 4.00 to 3.01
- 1 3.00 to 2.01
- 2 2.00 to 1.01
- 3 1.00 or less
- 4 Unknown or did not have one

13. What was your primary enrollment status when you attended our college?

142
- 0 Primarily for credit — full-time (12 or more hours each term enrolled)
- 1 Primarily for credit — part-time (less than 12 hours each term enrolled)
- 2 Primarily **not** for credit

14. While you were enrolled, how many hours did you normally work when classes were being held?

143
- 0 I was not employed
- 1 Employed 1-10 hours per week
- 2 Employed 11-20 hours per week
- 3 Employed 21-35 hours per week
- 4 Employed 36 hours or more per week

15. Did you apply for financial assistance (loan or scholarship) while at our college?

144
- 0 Yes, and I received it
- 1 Yes, but I did not receive it
- 2 Yes, but I left before I found out if I received it
- 3 No

16. The decision to leave a particular college can be motivated by a variety of reasons. *Please circle the letters of all of the reasons that contributed to your decision to leave our college.*

Academic Reasons

145 A Achieved my academic goals
146 B Transferred to another college
147 C Needed a break from college
148 D Courses/programs I wanted were not available
149 E Dissatisfied with my academic performance
150 F Dissatisfied with the quality of teaching
151 G Dissatisfied with the learning environment
152 H Course work not what I wanted
153 I Unsure of my academic goals
154 J Other _____

Financial Reasons

155 K Did not have enough money to continue
156 L Could not obtain sufficient financial aid
157 M Could not earn enough money while enrolled
158 N Other _____

Other Reasons

159 O Achieved my personal goals
160 P Accepted a job or entered the military
161 Q College experience not what I expected
162 R Few people I could identify with
163 S Moved out of the area
164 T Could not work and go to school at the same time
165 U Other responsibilities became too great
166 V Personal problems
167 W Other _____

SAMPLE

17. From the list of reasons in question 16, please select the three most important reasons and enter their codes below. For example, if the most important reason was that you "Transferred to another college," enter the letter B in the first box.

Most Important ☐ 168 Second Most Important ☐ 169 Third Most Important ☐ 170

18. The following are services provided by colleges. How would you evaluate these services as provided by our college? *For each service, circle the number of the response that is most appropriate.*

0 = I did not know about this service
1 = I knew about this service but did not use it
2 = I used this service and was satisfied with it
3 = I used this service but was not satisfied with it

| | | | | | |
|---|---|---|---|---|---|
| 171 | 0 | 1 | 2 | 3 | Admissions |
| 172 | 0 | 1 | 2 | 3 | Registration |
| 173 | 0 | 1 | 2 | 3 | Business office |
| 174 | 0 | 1 | 2 | 3 | Academic advising |
| 175 | 0 | 1 | 2 | 3 | Guidance, counseling, and testing |
| 176 | 0 | 1 | 2 | 3 | Reading, writing, math, and study-skills improvement |
| 177 | 0 | 1 | 2 | 3 | Tutoring |
| 178 | 0 | 1 | 2 | 3 | Minority affairs |
| 179 | 0 | 1 | 2 | 3 | College cultural programs |
| 180 | 0 | 1 | 2 | 3 | Recreation and athletic programs |
| 181 | 0 | 1 | 2 | 3 | Financial aid |
| 182 | 0 | 1 | 2 | 3 | Student employment |
| 183 | 0 | 1 | 2 | 3 | Career planning |
| 184 | 0 | 1 | 2 | 3 | Job placement |
| 185 | 0 | 1 | 2 | 3 | Housing services |
| 186 | 0 | 1 | 2 | 3 | Cafeteria |
| 187 | 0 | 1 | 2 | 3 | Health services |
| 188 | 0 | 1 | 2 | 3 | Library |
| 189 | 0 | 1 | 2 | 3 | Child care |
| 190 | 0 | 1 | 2 | 3 | Bookstore |
| 191 | 0 | 1 | 2 | 3 | Parking |
| 192 | 0 | 1 | 2 | 3 | Campus security |
| 193 | 0 | 1 | 2 | 3 | Other _____ |

19. a. Do you currently have plans for additional education?

194 —
0 No, not at this time
1 Yes, I plan to reenroll at this college
2 Yes, I have already enrolled at another college
3 Yes, I plan to enroll at another college
4 I am currently undecided about any additional education

b. If you circled responses 2 or 3, please write in the name of the college you plan to attend or are attending.

_____

## ADDITIONAL QUESTIONS SECTION

Additional questions may have been added to this printed form by your college. If you have been asked to answer additional questions, please use the boxes below to record your responses.

| | | | | |
|---|---|---|---|---|
| ☐ 20 195 | ☐ 21 196 | ☐ 22 197 | ☐ 23 198 | ☐ 24 199 |
| ☐ 25 200 | ☐ 26 201 | ☐ 27 202 | ☐ 28 203 | ☐ 29 204 |
| ☐ 30 205 | ☐ 31 206 | ☐ 32 207 | ☐ 33 208 | ☐ 34 209 |

Please use the space below for any comments you have about our college, this questionnaire, or anything else you would like to share with us.

SAMPLE



9341600000045400
5M 279 LP Rob 2BA 314

## LIST A: MAJORS AND AREAS OF STUDY

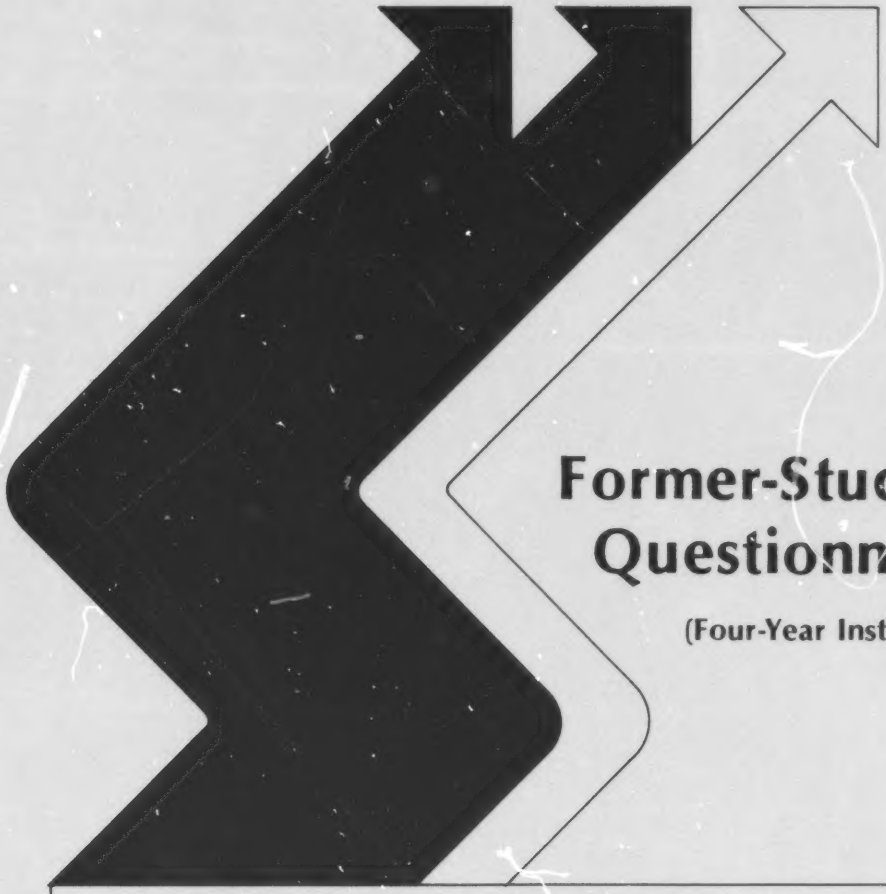
*Programs usually requiring four or more years of study*

| | |
|---|---|
| 0100 | Agriculture and Natural Resources |
| 0200 | Architecture and Environmental Design |
| 0300 | Area Studies (includes Asian Studies, Black Studies, etc.) |
| 0400 | Biological and Life Sciences |
| 0500 | Business and Management |
| 0600 | Communications |
| 0700 | Computer and Information Sciences |
| 0800 | Education |
| 0900 | Engineering |
| 1000 | Fine and Applied Arts (includes Art, Dance, Drama, Music, etc.) |
| 1100 | Foreign Languages |
| 1200 | Health Professions |
| 1300 | Home Economics (includes Clothing and Textiles, Institutional Housekeeping, and Food Service Management, etc.) |
| 1400 | Law |
| 1500 | Letters (includes Creative Writing, Literature, Philosophy, Speech, etc.) |
| 1600 | Library Science |
| 1700 | Mathematics |
| 1800 | Military Sciences |
| 1900 | Physical Sciences (includes Chemistry, Physics, Earth Sciences, etc.) |
| 2000 | Psychology |
| 2100 | Public Affairs and Social Services |
| 2200 | Social Sciences (includes Anthropology, Economics, History, Political Science, Sociology, etc.) |
| 2300 | Theology and Religion |
| 4900 | Interdisciplinary Studies |
| 6000 | Other |
| 7000 | Undecided but probably program of four or more years |

*Programs usually requiring less than four years of study*

| | |
|---|---|
| 5000 | Business and Commerce Technologies (includes Accounting, Banking, Commercial Art, Hotel and Restaurant Management, etc.) |
| 5005 | Secretarial Technologies (includes Office Supervising and Management, Stenographic and Typing Technology, etc.) |
| 5006 | Personal Service Technologies (includes Stewardess Training, Cosmetologist, etc.) |
| 5100 | Data Processing Technologies (includes Computer Programming, Keypunching, etc.) |
| 5200 | Health Services and Paramedical Technologies (includes Dental and Medical Assistant Technology, LPN, Occupational and Physical Therapy Technology, etc.) |
| 5300 | Mechanical and Engineering Technologies (includes Aeronautical and Automotive Technology, Welding, Electronics, Architectural Drafting, etc.) |
| 5317 | Construction and Building Technologies (includes Carpentry, Plumbing, Sheet Metal, Heating, etc.) |
| 5400 | Natural Science Technologies (includes Agriculture Technology, Environmental Health Technology, Forestry and Wildlife Technology, etc.) |
| 5404 | Food Services Technologies (includes Food Service Supervising, Institutional Food Preparation, etc.) |
| 5500 | Public Service Technologies (includes Law Enforcement Technology, Teacher Aid Training, Fire Control Technology, Public Administration Technology, etc.) |
| 5506 | Recreation and Social Work Related Technologies |
| 8000 | Other |
| 9000 | Undecided but probably less than four year program |

SAMPLE



# Former-Student Questionnaire

## (Four-Year Institutions)

**PERSONAL IDENTIFICATION SECTION**

Do not complete this section unless you are asked to do so. *Please print.*

LAST NAME _____ (1-12)  FIRST NAME _____ (13-20)  MIDDLE INITIAL _____ (21)

ANY OTHER NAME WHICH MAY APPEAR ON YOUR SCHOOL OR COLLEGE RECORDS _____

STUDENT IDENTIFICATION NUMBER _____ (22-30)  TELEPHONE NUMBER _____ - _____

PERMANENT MAILING ADDRESS STREET AND NUMBER _____ (31-55)

CITY _____ (56-70)  STATE _____ (71-72)  ZIP CODE _____ (73-77)

National Center for Higher Education Management Systems
The College Board

Student-Outcomes Information Services

## STANDARD QUESTIONS SECTION

**INSTRUCTIONS:**

Specific directions are given for completing many of the questions in this questionnaire. Where no directions are given, please circle the number or letter of the most appropriate response, such as in the sample question below.

*Sample:*

4. Are you currently married?
   0 Yes
   (1) No

If you are not currently married, you would circle the number 1.

1. What is your sex?
78 — 0 Female
   1 Male

2. How do you describe yourself? *Circle one.*
79 — 0 American Indian or Alaskan Native
   1 Asian, Pacific Islander, or Filipino
   2 Black or Afro-American
   3 Hispanic, Chicano, or Spanish-speaking American
   4 White or Caucasian
   5 Other _____

3. How old are you?
80 — 0 Under 18
   1 18 to 22 years
   2 23 to 25 years
   3 26 to 30 years
   4 31 to 40 years
   5 41 to 50 years
   6 51 to 60 years
   7 61 years or more

4. Are you currently married?
81 — 0 Yes
   1 No

5. Do you feel that you have a permanent handicap? *Circle all that apply.*
82 0 No
83 1 Yes, restricted mobility
84 2 Yes, restricted hearing
85 3 Yes, restricted vision
86 4 Yes, but I prefer not to record it on this form
87 5 Other _____

6. How long did you attend our college?
88 — 0 One term
   1 One year
   2 Two years
   3 Three years
   4 Four years
   5 Five years
   6 Six years
   7 More than six years

7. The following statements reflect the goals of many college students. In the first column, please circle the letters of those goals that were important to you when you attended our college. In the second column, circle the letters of those goals you feel you are achieving or have achieved as a result of your experiences at our college.

| These goals were important to me | | These goals I am achieving or have achieved | | |
|---|---|---|---|---|
| | | | | **Academic Goals** |
| 89 | A | 90 | A | To increase my knowledge and understanding in an academic field |
| 91 | B | 92 | B | To obtain a certificate or degree |
| 93 | C | 94 | C | To complete courses necessary to transfer to another educational institution |
| 95 | D | 96 | D | Other _____ |
| | | | | **Career-Preparation Goals** |
| 97 | E | 98 | E | To discover career interests |
| 99 | F | 100 | F | To formulate long-term career plans and/or goals |
| 101 | G | 102 | G | To prepare for a new career |
| 103 | H | 104 | H | Other _____ |
| | | | | **Job- or Career-Improvement Goals** |
| 105 | I | 106 | I | To improve my knowledge, technical skills, and/or competencies in my job or career |
| 107 | J | 108 | J | To increase my chances for a raise and/or promotion |
| 109 | K | 110 | K | Other _____ |
| | | | | **Social- and Cultural-Participation Goals** |
| 111 | L | 112 | L | To become actively involved in student life and campus activities |
| 113 | M | 114 | M | To increase my participation in cultural and social events |
| 115 | N | 116 | N | To meet people |
| 117 | O | 118 | O | Other _____ |
| | | | | **Personal-Development and Enrichment Goals** |
| 119 | P | 120 | P | To increase my self-confidence |
| 121 | Q | 122 | Q | To improve my leadership skills |
| 123 | R | 124 | R | To improve my ability to get along with others |
| 125 | S | 126 | S | To learn skills that will enrich my daily life or make me a more complete person |
| 127 | T | 128 | T | To develop my ability to be independent, self-reliant, and adaptable |
| 129 | U | 130 | U | Other _____ |

SAMPLE

8. From the list of goals in question 7, please select the three that were most important to you when you attended our college. For example, if your most important goal was "To obtain a certificate or degree," enter the letter B in the first box.

Most Important ☐ 131 Second Most Important ☐ 132 Third Most Important ☐ 133

9. What degree were you seeking when you attended our college?

134
- 0 Not seeking a certificate or degree
- 1 Certificate
- 2 Associate degree
- 3 Bachelor's degree
- 4 Master's degree
- 5 Specialist degree (e.g., Ed.S.)
- 6 Professional degree (e.g., medicine, law, theology)
- 7 Doctoral degree (e.g., Ph.D., Ed.D., D.B.A.)

10. a. Please write in your major or area of study at our college.

_____

b. Now look at **List A: Majors and Areas of Study** and enter in the boxes below the code number of the category in which your major or area of study falls.

☐☐☐☐ 135-138

11. a. Was our college your first choice?

139
- 0 Yes
- 1 No

b. If no, what kind of college was your first choice?

140
- 0 A public two-year college
- 1 A public four-year college
- 2 A private college or university
- 3 A vocational/technical school, business school, school of nursing, trade school, or beauty school
- 4 Other _____

What was the name of the college that was your first choice?

_____

12. When you left our college, what was your overall grade point average (GPA)?

141
- 0 4.00 to 3.01
- 1 3.00 to 2.01
- 2 2.00 to 1.01
- 3 1.00 or less
- 4 Unknown or did not have one

13. What was your primary enrollment status when you attended our college?

142
- 0 Primarily for credit — full-time (12 or more hours each term enrolled)
- 1 Primarily for credit — part-time (less than 12 hours each term enrolled)
- 2 Primarily **not** for credit

14. While you were enrolled, how many hours did you normally work when classes were being held?

143
- 0 I was not employed
- 1 Employed 1-10 hours per week
- 2 Employed 11-20 hours per week
- 3 Employed 21-35 hours per week
- 4 Employed 36 hours or more per week

15. Did you apply for financial assistance (loan or scholarship) while you attended college?

144
- 0 No, I did not need financial assistance
- 1 Yes, but I received none
- 2 Yes, but I left before I found out if I received it

The decision to leave a particular college can be influenced by a variety of reasons. *Please circle the letters of all the reasons that contributed to your decision to leave our college.*

Academic Reasons

145 A Achieved my academic goals
146 B Transferred to another college
147 C Needed a break from college
148 D Courses/programs I wanted were not available
149 E Dissatisfied with my academic performance
150 F Dissatisfied with the quality of teaching
151 G Dissatisfied with the learning environment
152 H Course work not what I wanted
153 I Unsure of my academic goals
154 J Other _____

Financial Reasons

155 K Did not have enough money to continue
156 L Could not obtain sufficient financial aid
157 M Could not earn enough money while enrolled
158 N Other _____

Other Reasons

159 O Achieved my personal goals
160 P Accepted a job or entered the military
161 Q College experience not what I expected
162 R Few people I could identify with
163 S Moved out of the area
164 T Could not work and go to school at the same time
165 U Other responsibilities became too great
166 V Personal problems
167 W Other _____

SAMPLE

17. From the list of reasons in question 16, please select the three most important reasons and enter their codes below. For example, if the most important reason was that you "Transferred to another college," enter the letter B in the first box.

Most Important ☐ 168 Second Most Important ☐ 169 Third Most Important ☐ 170

18. The following are services provided by colleges. How would you evaluate these services as provided by our college? *For each service, circle the number of the response that is most appropriate.*

0 = I did not know about this service
1 = I knew about this service but did not use it
2 = I used this service and was satisfied with it
3 = I used this service but was not satisfied with it

| | | | | | |
|---|---|---|---|---|---|
| 171 | 0 | 1 | 2 | 3 | Admissions |
| 172 | 0 | 1 | 2 | 3 | Registration |
| 173 | 0 | 1 | 2 | 3 | Business office |
| 174 | 0 | 1 | 2 | 3 | Academic advising |
| 175 | 0 | 1 | 2 | 3 | Guidance, counseling, and testing |
| 176 | 0 | 1 | 2 | 3 | Reading, writing, math, and study-skills improvement |
| 177 | 0 | 1 | 2 | 3 | Tutoring |
| 178 | 0 | 1 | 2 | 3 | Minority affairs |
| 179 | 0 | 1 | 2 | 3 | College cultural programs |
| 180 | 0 | 1 | 2 | 3 | Recreation and athletic programs |
| 181 | 0 | 1 | 2 | 3 | Financial aid |
| 182 | 0 | 1 | 2 | 3 | Student employment |
| 183 | 0 | 1 | 2 | 3 | Career planning |
| 184 | 0 | 1 | 2 | 3 | Job placement |
| 185 | 0 | 1 | 2 | 3 | Housing services |
| 186 | 0 | 1 | 2 | 3 | Cafeteria |
| 187 | 0 | 1 | 2 | 3 | Health services |
| 188 | 0 | 1 | 2 | 3 | Library |
| 189 | 0 | 1 | 2 | 3 | Child care |
| 190 | 0 | 1 | 2 | 3 | Bookstore |
| 191 | 0 | 1 | 2 | 3 | Parking |
| 192 | 0 | 1 | 2 | 3 | Campus security |
| 193 | 0 | 1 | 2 | 3 | Other _____ |

19. a. Do you currently have plans for additional education?

194 —
0 No, not at this time
1 Yes, I plan to reenroll at this college
2 Yes, I have already enrolled at another college
3 Yes, I plan to enroll at another college
4 I am currently undecided about any additional education

b. If you circled response 2 or 3, please write in the name of the college you plan to attend or are attending.

_____

## ADDITIONAL QUESTIONS SECTION

Additional questions may have been added to this printed form by your college. If you have been asked to answer additional questions, please use the boxes below to record your responses.

| | | | | |
|---|---|---|---|---|
| ☐ 20 195 | ☐ 21 196 | ☐ | ☐ 23 198 | ☐ 24 199 |
| ☐ 25 200 | ☐ 201 | ☐ | ☐ | ☐ 29 204 |
| ☐ | ☐ 31 206 | ☐ 32 | ☐ 33 208 | ☐ 34 209 |

Please use the space below for any comments you have about this college, this questionnaire, or anything else you would like to share with us.

SAMPLE



9341600000045400
10M 279 LP Rob 2BA309

## LIST A: MAJORS AND AREAS OF STUDY

*Programs usually requiring four or more years of study*

| | |
|---|---|
| 0100 | Agriculture and Natural Resources |
| 0200 | Architecture and Environmental Design |
| 0300 | Area Studies (includes Asian Studies, Black Studies, etc.) |
| 0400 | Biological and Life Sciences |
| 0500 | Business and Management |
| 0600 | Communications |
| 0700 | Computer and Information Sciences |
| 0800 | Education |
| 0900 | Engineering |
| 1000 | Fine and Applied Arts (includes Art, Dance, Drama, Mus[illegible]) |
| 1100 | Foreign Languages |
| 1200 | Health Professions |
| 1300 | Home Economics (includes Clothing and Textiles, Institutional Housekeeping, and Food Service Management, etc.) |
| 1400 | Law |
| 1500 | Letters (includes Creative Writing, Literature, [illegible]sophy, Speech, etc.) |
| 1600 | Library Science |
| 1700 | Mathematics |
| 1800 | Military Sciences |
| 1900 | Physical Sciences (includes Chemis[illegible]s, Earth Sciences, etc.) |
| 2000 | Psychology |
| 2100 | Public Affairs and Social Servi[illegible] |
| 2200 | Social Sciences (includes An[illegible]nomics, History, Politic[illegible]l Science, Soc[illegible] |
| 2300 | Theology and Religion |
| 4900 | Interdisciplinary Studi[illegible] |
| 6000 | Other |
| 7000 | Undecided but prob[illegible] four or more years |

*Programs usually r[illegible]quiring [illegible] than four years of study*

| | |
|---|---|
| 5000 | Business an[illegible]logies (includes Accounting, Banking, [illegible] and Restaurant Management, etc.) |
| 5005 | Secretarial Techn[illegible]udes Office Supervising and Ma[illegible]gement, Steno[illegible]nd Typing Technology, etc.) |
| 5006 | P[illegible] Service Tech[illegible]gies (includes Stewardess Training, [illegible]) |
| 5100 | [illegible]ologies (includes Computer Program[illegible]ching, etc.) |
| 5200 | [illegible] Paramedical Technologies (includes D[illegible]d Medical Assistant Technology, LPN, Occupational an[illegible] Therapy Technology, etc.) |
| 5300 | Mec[illegible]d Engineering Technologies (includes Aeron[illegible]l and Automotive Technology, Welding, Electro[illegible]s, Architectural Drafting, etc.) |
| 5400 | Co[illegible]truction and Building Technologies (includes Carpentry, P[illegible]bing, Sheet Metal, Heating, etc.) |
| 5[illegible] | [illegible]ral Science Technologies (includes Agriculture Technology, Environmental Health Technology, Forestry and Wildlife Technology, etc.) |
| 5[illegible] | Food Services Technologies (includes Food Service Supervising, Institutional Food Preparation, etc.) |
| 5500 | Public Service Technologies (includes Law Enforcement Technology, Teacher Aid Training, Fire Control Technology, Public Administration Technology, etc.) |
| 5506 | Recreation and Social Work Related Technologies |
| 8000 | Other |
| 9000 | Undecided but probably less than four year program |

SAMPLE

## APPENDIX B

# Planning Chart for Survey Activities

## Planning Chart for Survey Activities

| ACTIVITY | PERSON/OFFICE RESPONSIBLE | TARGET DATE |
|---|---|---|
| 1. Decide on the objectives of the survey and the specific study questions to be answered. | | |
| 2. Meet with a committee of potential users of the survey to discuss and if necessary modify survey objectives and study questions. | | |
| 3. Finalize study objectives and prepare a schedule for survey administration. | | |
| 4. Study the appropriate questionnaire to ensure that it will provide data appropriate to the survey objectives. | | |
| 5. Decide on an appropriate sampling strategy. | | |
| 6. Establish a method for identifying the students in the sample (total) population to be surveyed. | | |
| 7. Decide on a method for distributing questionnaires. | | |
| 8. Produce a complete list of those to be surveyed; if using a computer to generate the list, also generate a computer file containing all students to be surveyed. | | |
| 9. Prepare all survey materials for distribution (questionnaires, cover letters, follow-up materials, mailing envelopes, return envelopes, postage, address labels, tracking sheets). | | |
| 10. Prepare a set of follow-up procedures. | | |
| 11. Administer or mail out questionnaires. | | |
| 12. As returns are obtained, maintain tracking sheets, implement appropriate follow-up procedures. | | |
| 13. Edit and code returned questionnaires; prepare for submission to SOIS Questionnaire-Analysis Service. | | |
| 14. Integrate data with institutional master-file data. | | |
| 15. Document analysis printouts. | | |
| 16. Prepare initial reports; meet with users committee on results obtained. | | |
| 17. Respond to requests for information on demand. | | |

## APPENDIX C

# Using the SOIS Questionnaire-Analysis Service

# Using the SOIS Questionnaire-Analysis Service

A considerable problem in conducting a student-survey is the need to develop an analytic framework and computer software to facilitate analysis of the data collected. Many colleges and universities are prevented from conducting effective studies because they lack the qualified personnel or resources to support these activities. To meet this need, SOIS includes procedures that can provide computer analyses of the student-outcomes questionnaires. The procedures provide an institution with a ready-made analysis package that contains frequency and percentage distributions for every item as well as appropriate means, medians, and standard deviations; cross-tabulations of most items showing differential responses for subgroups of respondents; comparative, summary data from questionnaires collected by other, similar institutions that have participated in SOIS; and, perhaps most importantly, quick turn-around for processing questionnaires. Specifically, the SOIS analysis service can:

- Keypunch the questionnaires collected by the institution
- Perform computer analyses using the standard QUEST analysis system developed by the College Board
- Provide an easy-to-read, computer-generated report for each questionnaire, including statistical tables that can be inserted into locally produced interpretive reports

- Provide comparative reports summarizing the responses of students at other institutions using the SOIS Questionnaire-Analysis Service (Program Profiles)
- Provide a computer tape of coded resources for further institutional analysis

SOIS procedures for analyzing the questionnaires thus provide institutional administrators with a quick, inexpensive, and simple way of communicating survey information to various campus and community audiences.

**Preparing Questionnaires for Analysis**

SOIS questionnaire-analysis procedures are initiated after the local survey coordinator has administered the questionnaires, collected the completed forms, and inspected them to ensure an acceptable level of accuracy and completeness. The procedures end when a computer-produced analytical report is mailed back to the institution, usually within two weeks of receipt at the College Board.

To ensure that students have followed directions and that no inconsistencies have occurred in the kinds of responses received for each questionnaire, a few returned questionnaires should be examined. This is especially important if local questions have been added to the questionnaires. In some instances, the administrator may discover problems that can be corrected through hand coding a particular response before forwarding the questionnaire for analysis. In other instances, an inspection of the questionnaires before keypunching may reveal problems that cannot be corrected but that can be discussed in the interpretive report.

SOIS questionnaire-analysis procedures assume that all student responses have been made in a format that can be keypunched without further editing or coding. The standard questionnaires are designed so that all responses are made in such formats. If local questions have been added, however, the administrator should verify that they have been correctly entered in the Additional Questions section of the questionnaire. Some local questions may require that students write their responses directly after each question. For these responses to be included in the computer analyses, the local administrator will need to code them in the appropriate box of the Additional Questions section of the form. (Remember that the number of responses to each local question is limited to ten and that they must be coded *numerically* [0-9]).

Any hand coding should be performed by a person who has been given explicit coding instructions. The coder should be told to set aside any questionnaire for which there is an ambiguous response so that the survey administrator can decide how to code it.

In any questionnaire survey, mistakes by hand coders or by students who misread directions are bound to occur in recording responses. Editing the questionnaires before they are submitted for analysis can detect two basic kinds of errors:

1. Responses may be out of the acceptable range for an item. For example, one or two students may be shown to have sex codes of "3" when only "0" and "1" are valid responses. The structure of the questionnaire makes such coding and response errors in standard questions relatively rare, but they will occur more frequently on local items.
2. Contradictory responses may exist among pairs or sets of responses. An example of such a contradiction occurs when a sophomore student indicates that the *current* degree being pursued is a doctorate. In many cases, these errors originate on the questionnaire itself (that is, a student misunderstood an item). In such cases, the survey administrator must decide which response is correct; those responses that contradict must be changed to blanks or "no response" on the appropriate card columns.

**How to Use the Batch Transmittal Form**

After the completed questionnaires have been inspected and any necessary hand coding performed, they should be securely bundled, together with a fully completed Batch Transmittal Form, and forwarded to

SOIS Director
College Board
888 Seventh Avenue
New York, New York 10019

In order to insure against loss of the questionnaires in transit, it is best to send them by registered mail or with a return receipt requested. A sample Batch Transmittal Form is shown in figure C.1. Each institution participating in SOIS will be provided with a copy of this form when its questionnaire order is filled. A separate Batch Transmittal Form *must be submitted for every type of questionnaire and for every administration* of a questionnaire for which a separate analysis is desired.

For example, three separate Batch Transmittal Forms must be completed if an institution (1) has administered the Entering-Student Questionnaire to new students in the fall, winter, and spring quarters; (2) is transmitting all three administration's questionnaires to the College Board at one time; and (3) desires separate reports for each entering student group. Similarly, if the institution has administered the Entering-Student, Former-Student, and Program-Completer/Graduating-Student questionnaires and is forwarding all three at one time, separate Batch Transmittal Forms must be completed. In addition, if more than one institution or more than one campus of a single institution is submitting questionnaires at one time, and if separate analyses are desired, separate Batch Transmittal Forms must be completed.

The Batch Transmittal Form requests the following information:

FIGURE C.1

QUESTIONNAIRE BATCH TRANSMITTAL FORM

**NCHEMS-College Board**
**Student-Outcomes Information Services**

# Questionnaire Batch Transmittal Form

**Institutional Study Identification Number** (for College Board use only) 1 [ ][ ][ ][ ] 4

**Type of Questionnaire Administered** (Complete a separate form for each type of questionnaire) 5 [ ][ ] 6

| | CODES FOR THE 2-Year Series | 4-Year Series |
|---|---|---|
| Entering Student | 21 | 41 |
| Continuing Student | 22 | 42 |
| Program Completer/Graduating Student | 23 | 43 |
| Former Student | 24 | 44 |
| Recent Alumni | 25 | 45 |
| Long-Term Alumni | 26 | 46 |

**Date Questionnaires Were Administered** 7 [ ][ ][ ][ ][ ][ ] 12
MO DAY YEAR

**Type and Control of Institution** [ ] 13

1 = Public two-year
2 = Public four-year
3 = Private two-year
4 = Private four-year
5 = Proprietary
6 = Other

**Carnegie Designation of Institutional Type** 14 [ ][ ] 15

1.1 = Research University I
1.2 = Research University II
1.3 = Doctorate Granting University I
1.4 = Doctorate Granting University II
2.1 = Comprehensive College or University I
2.2 = Comprehensive College or University II
3.1 = Liberal Arts College I
3.2 = Liberal Arts College II
4.0 = Two-year College or Institute
5.1 = Theological Seminary or Bible College
5.2 = Medical School or Center
5.3 = Other Separate Health Professions Center
5.4 = School of Engineering or Technology
5.5 = School of Business or Management
5.6 = School of Art, Music, or Design
5.7 = School of Law
5.8 = Teachers College
5.9 = Other Specialized Institution
6.0 = Institution for Non-Traditional Study
6.1 = No Carnegie Designation

**Location of Institution** (Postal Service State abbreviation) 16 [ ][ ] 17

**Number of Questionnaires in this Batch** 18 [ ][ ][ ][ ] 21

**Keypunching Instructions:** (Use A, B, or C, as appropriate) [ ] 22

Keypunch questionnaire data and:
A. Student name, address and I.D. number (Cost: 35¢ per questionnaire)
B. Student I.D. number only (Cost: 25¢ per questionnaire)
C. No student I.D. information (Cost: 17¢ per questionnaire)

**Keypunch as per above with Key Verification** (Cost: double the prices listed above)
(Y = Yes, N = No) [ ] 23

**Should tape output be produced at $50 per tape?** (Y = Yes, N = No) [ ] 24

Track_____ Density_____

**Extra copies of the report are available at $20 per copy. Enter number of copies desired.** 25 [ ][ ] 26

**Should questionnaires be returned to institution?** (Y = Yes, N = No) [ ] 27
(You will be billed for mailing costs plus handling charges of $10)

**Number of local questions added** (Please attach a copy of your local questions): 28 [ ][ ] 29

**SOIS Questionnaires submitted by:**

Name _____ Title _____

Institution [ ][ ][ ][ ][ ][

- *Institutional Study Identification Number.* This number is used to identify different institutions or different campuses for which both individual and group reports are to be prepared. If the questionnaires have been administered as part of a larger, prearranged group study, a special identification number will have been assigned to the institution by the study administrator. If the institution, on its own, is submitting questionnaires from more than one campus or administrative unit and wishes separate analyses, different numbers should be assigned to identify the different entities. In planning studies such as those described above, it is essential that prior arrangements be made with the Director of SOIS Data Processing to assure accuracy in the reporting of results.
- *Type of Questionnaire Administered.* The individual questionnaires in the different series have different questions and thus require different analyses. The questionnaire identification number ensures that the correct analysis package is used for the type and series of questionnaires included in the batch. (Note again that separate Batch Transmittal Forms must be completed for each different kind of questionnaire submitted for processing and analysis.)
- *Type and Control of Institution.* Enter the code number that best describes the kind of institution at which the questionnaires have been collected. The code entered here will be used to aid preparation of Program Profile comparative data reports.
- *Carnegie Designation of Institutional Type.* Enter the code number that best describes the kind of institution at which the questionnaires have been collected. The code entered here will be used for internal research purposes and for developing additional comparative data in subsequent years of the service.
- *Location of Institution.* Enter the Postal Service two-letter code identifying the state in which the institution is located. (For example, CA for California, NY for New York.) If the institution has campuses in more than one state, enter the code for the state in which the primary campus or administrative center is located. The code entered here will also be used for internal research purposes and for developing additional comparative data in subsequent years of the service.
- *Approximate Number of Questionnaires in Batch.* The number entered here will be compared with the number of questionnaires keypunched to ensure that none is lost in transit.
- *Return of Questionnaires.* Upon request, the College Board will return the questionnaires to the institution after keypunching and analysis. An additional charge for return postage and handling will be included with the analysis costs.

- *Submitted By.* Provide the name, address, and telephone number of the person to whom questions about the desired analyses should be directed (if necessary) and to whom the computer-produced reports should be forwarded.

Multiple copies of the computer-generated report, which typically can be produced less expensively at the time the report is generated, may be obtained through the Batch Transmittal Form. Computer tape output can also be provided in a variety of track/density formats. Such output can help an institution perform subsequent detailed analyses or different analyses as local needs and interests dictate.

**Outputs of the Analysis Service**

The standard output of the SOIS Questionnaire-Analysis Service is one copy of a computer-generated report for each group of questionnaires for which a Batch Transmittal Form is submitted. Each item in the standard questionnaire will be identified with appropriate textual statements. The number and percentage of students indicating each response will be identified. Means, medians, and standard deviations will be provided for questions with appropriate numerical response values.

Local questions coded in the Additional Questions section will be identified only as local question 1, local question 2, and so forth. Responses to the local questions will be identified only by the code number or letter entered in the response box. Frequency and percentage distributions will be provided, but no means, medians, or standard deviations will be calculated.

Special analyses and outputs can be provided upon request, with prior arrangement, and for additional cost. These include group reports combining responses to the same questionnaire made by students at more than one institution or by more than one campus or administrative unit that administers the questionnaires at the same time. Multiple group reports can be prepared for different levels of inquiry (for a campus, a multicampus institution, a segment of similar institutions, a geographical region within a state, a state, or a multistate region). Special institutional coding may be required to produce meaningful group reports; specific prior arrangements with the Director of SOIS Processing at the College Board are advised.

In addition to group reports, NCHEMS and the College Board can arrange other analytic services to meet specific institutional, regional, or state needs. Most needs, however, should be determined before the questionnaires are administered to students. Those interested in special services or analyses should contact the SOIS Director at NCHEMS (P.O. Drawer P, Boulder, Colorado 80302) for special services related to survey design or data interpretation, or the SOIS Director at College Board (888 Seventh Avenue, New York, New York 10019) for special data analyses or comparative data.

The computer analyses of the SOIS Questionnaire-Analysis Service have been designed to provide the basic core of information needed for preparing local interpretive reports. Generally self-explanatory and easily understood, they do not require that the user be sophisticated in research methods or data processing.

In the analyses, questions are identified by the same number/letter code that appears on the original questionnaire. A table of contents, organized in the same sequence as the items in the original questionnaire, precedes each analysis. An index, arranged in alphabetical sequence by question content, follows the analysis and helps the user locate specific questions in the output provided. Samples of the first pages of a table of contents from the Former-Student Questionnaire is illustrated in figure C.2.

FIGURE C.2

SAMPLE TABLE OF CONTENTS FOR SOIS ANALYSIS

QUEST

DATA ANALYSIS PROGRAM DEVELOPED BY THE

COLLEGE BOARD

STUDENT OUTCOMES INFORMATION SERVICES (SOIS)

SURVEY OF FORMER STUDENTS (4-YEAR)

TABLE OF CONTENTS


| QUESTION # | DESCRIPTION | | PAGE # |
|---|---|---|---|
| 1 | SEX | | 1 |
| 2 | ETHNIC BACKGROUND | | 2 |
| 3 | AGE | | 4 |
| 4 | MARITAL STATUS | | 6 |
| 5 | PERMANENT HANDICAP | | 7 |
| 6 | HOW LONG DID YOU ATTEND THIS COLLEGE | | 8 |
| 7A | IMPORTANT ACADEMIC GOALS | | 10 |
| 7B | PAST CAREER PREPARATION GOALS | | 11 |
| 7C | PAST CAREER IMPROVEMENT GOALS | | 12 |
| 7D | PAST SOCIAL & CULT-PARTICIPATION | GOALS | 13 |
| 7E | IMPORTANT PERSONAL-DEVELOPMENT AND | ENRICHMENT GOALS | 14 |
| 7A | ACHIEVED ACADEMIC GOALS | | 15 |
| 7B | ACHIEVED CAREER PREPARATION GOALS | | 15 |
| 7C | ACHIEVED CAREER IMPROVEMENT GOALS | | 16 |
| 7D | ACHIEVED SOCIAL & CULT-PARTICIPATION | GOALS | 16 |
| 7E | ACHIEVED PERSONAL-DEVELOPMENT AND | ENRICHMENT GOALS | 17 |
| 8A | MOST IMPORTANT GOAL | | 19 |
| 8B | SECOND MOST IMPORTANT GOAL | | 26 |
| 8C | THIRD MOST IMPORTANT GOAL | | 33 |
| 9 | CURRENT DEGREE PLANS | | 40 |
| 10A | MAJOR (AREA OF STUDY): GENERAL | | 43 |
| 10B | MAJOR (AREA OF STUDY): DETAIL | 4-YEAR PROGRAMS | 44 |
| 10C | MAJOR (AREA OF STUDY): DETAIL | 2-YEAR PROGRAMS | 47 |
| 11A | WAS OUR COLLEGE YOUR FIRST CHOICE | | 49 |
| 11B | WHAT WAS FIRST CHOICE COLLEGE | | 50 |
| 12 | WHEN YOU LEFT OUR COLLEGE, WHAT WAS | YOUR GPA | 52 |
| 13 | ENROLLMENT STATUS AT OUR COLLEGE | | 55 |
| 14 | WORKED HOW MANY HOURS PER WEEK | | 56 |
| 15 | FINANCIAL AID APPLICANT | | 58 |
| 16A | ACADEMIC REASONS FOR LEAVING | | 60 |
| 16B | FINANCIAL REASONS FOR LEAVING | | 64 |
| 16C | OTHER REASONS FOR LEAVING | | 67 |
| 17A | MOST IMPORTANT REASON FOR LEAVING | | 72 |
| 17B | SECOND MOST IMPORTANT REASON FOR | LEAVING | 81 |
| 17C | THIRD MOST IMPORTANT REASON FOR | LEAVING | 90 |
| 18A | EVALUATION OF: ADMISSIONS | | 99 |
| 18B | EVALUATION OF: REGISTRATION | | 100 |
| 18C | EVALUATION OF: BUSINESS OFFICE | | 100 |
| 18D | EVALUATION OF: ACADEMIC ADVISING | | 101 |

In the computer analysis, most items appearing on the questionnaires are cross-tabulated by responses to other items. This permits differential description of subgroups of the total student population. Typically, every item is cross-tabulated by the gender, marital status, handicapped status, racial/ethnic group membership, course load, and age of the respondent. Other special cross-tabulations are provided as appropriate for individual items. Figure C.3 gives a detailed presentation of the specific cross-tabs provided for the SOIS Former-Student questionnaire. The cross-tabs provided in each report are documented in the computer output by a Question Table and a Cross-Tabulation Report, which appear at the end of the report.

**Understanding the Computer Analysis**

The bulk of the report provided by the SOIS Questionnaire-Analysis Service for each questionnaire consists of cross-tabulations of relevant questions against one another. These cross-tabulations enable the questionnaire administrator to directly compare the responses of different subgroups of students and to test hypotheses about some of the causal dynamics underlying particular responses. It is important to stress that a great deal of useful information is often contained in a single cross-tabulation and that each should be examined with some care. This section will explain the contents of the computer output itself, while the next chapter will treat a number of ways in which the cross-tabs provided can be converted into useful institutional information.

Cross-tabulations are presented in the computer-generated report in the order in which they appear on the questionnaire. All breakdowns of the responses to a particular question by different subgroups are thus presented in the same part of the report for easy reference. The table of contents and index provide immediate access to all breakdowns of a particular question.

A sample page of actual output from the Former-Student Questionnaire is illustrated in figure C.4. Note that the QUEST analysis automatically interjects appropriate text to explicate the material included in the tables. The example is drawn from the Four-Year College, Former-Student Questionnaire, and it presents the responses to Question 7A—the "academic goals" of students entering the institution—broken down by sex, marital status, handicapped status, race, full-time/part-time enrollment, and age. Note that part of the age breakdown is cut off and will continue on the next page.

Explanations of different parts of the computer output are presented below:

1. *Identification numbers* corresponding to the designation of the item on the original questionnaire and a prose description of the content of the item. In many instances, the prose description is too long to exactly duplicate the original question; the user should refer to the questionnaire for the exact wording.

FIGURE C.3

STUDENT-OUTCOMES INFORMATION SERVICES (SOIS)

**Cross-Tabs for Former-Student Questionnaire (4-Year)**

| ITEM | DESCRIPTION | CROSS-TABS | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sex | Ethnic Background | Age | Marital Status | Full-time/Part-time | Degree/Nondegree | Length of Attendance | Degree Goal | This College First Choice? | Preferred College | G.P.A. Here | Employment Status | Aid Applicant? | |
| 1. | Sex | X | X | X | X | X | X | | | | | | | | |
| 2. | Ethnic Background | X | X | X | X | X | X | | | | | | | | |
| 3. | Age | X | X | | X | X | X | | | | | | | | |
| 4. | Marital Status | X | X | | | | | | | | | | | | |
| 5. | Handicap | X | X | X | X | X | X | | | | | | | | |
| 6. | Length of Enrollment | X | X | X | X | X | X | | | | | | | | |
| 7. | Goals (Academic, Career, Social, Personal) | X | X | | | X | X | | | | | | | | |
| 8. | Ranking of Goals | X | X | X | X | X | X | X | X | X | X | | | | |
| 9. | Degree Goals | X | X | X | X | X | X | X | X | X | | | | | |
| 10. | Major Here | X | X | X | X | X | X | | | | | | | | |
| 11. | First-Choice College | X | X | X | X | X | X | X | X | | | | | | |
| 12. | G.P.A. Here | X | X | X | X | X | X | X | X | X | | | | | |
| 13. | Full-time/Part-time | X | X | X | X | | | | | | | | | | |
| 14. | Employment Status | X | X | X | X | X | X | X | | | | | | X | |
| 15. | Aid Applicant? | X | X | X | X | X | X | | | X | | | | | |
| 16. | Reasons for Leaving | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 17. | Ranking of Reasons | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 18A-C | Evaluation of Services | X | X | X | X | X | X | | | | | | | | |
| 18D-G | Evaluation of Services | X | X | X | X | X | X | | | | | X | | | |
| 18H-J | Evaluation of Services | X | X | X | X | X | X | | | | | | | | |
| 18K-L | Evaluation of Services | X | X | X | X | X | X | | | | | | X | X | |
| 18M | Evaluation of Services | X | X | X | X | X | X | | | | | | | | |
| 18N | Evaluation of Services | X | X | X | X | X | X | | | | | | X | X | |
| 18O-Q | Evaluation of Services | X | X | X | X | X | X | | | | | | | | |
| 18R | Evaluation of Services | X | X | X | X | X | X | | | | | X | | | |
| 18S-W | Evaluation of Services | X | X | X | X | X | X | | | | | | | | |
| 19. | Future Plans | X | X | X | X | X | X | X | X | X | X | X | | | |
| | Local Questions | X | X | X | X | X | X | | | | | | | | |
| | | | | | | | | | | | | | | | |

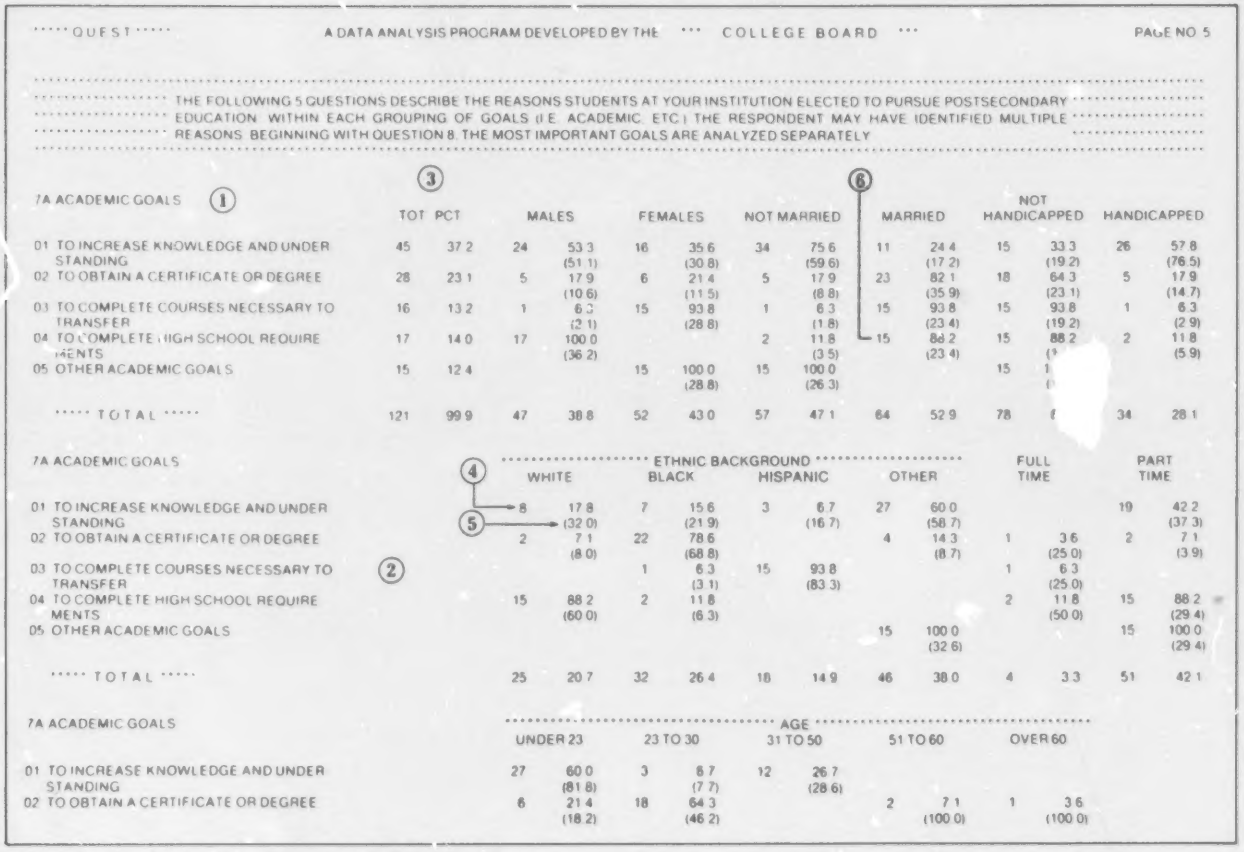
2. *Response identification numbers and text* for every valid response to the original item. As with the text for the question, that for the response may not exactly duplicate the original on the questionnaire.
3. *TOT and PCT* (total and percent) provide the frequency of response to each item and the percentage of all responses which that number represents. In this case, 121 responses on academic goals were received from those answering the questionnaire. In some instances, the total will reflect the unduplicated number of respondents to the *questionnaire.* For those questions that allow multiple responses (as this question does), the number will reflect the number of individual responses to the *question,* a number that will probably exceed the number of individual respondents. In either case, the percentage reported will be the percentage the number of responses represents of the total reported at the end of the column.

   The TOT and PCT columns appear only once for each item, before any subgroup breakdowns are presented. In subsequent analyses of that item using different cross-tabulations, the TOT and PCT columns are blank.
4. *Cross-Tabulation Rows* report the number and percentage of respondents answering both questions (broken down by the answers that they gave). For example, eight respondents who described themselves as white also indicated that they had an academic goal involving an increase in knowledge and understanding. Those eight white students represented 17.8 percent of all students who identified that as one of their goals. In many cases, adjacent cross-tabulation columns are not mutually exclusive because they are responses to different questions (as between other ethnic background and the full-time class load). In those cases, the calculation of raw percentage begins again with the first column of the new grouping.
5. *Cross-Tabulation Column Percentages* are given in parentheses immediately below the row percentages (XX.X). These show the percentage that the number of respondents in that row represents of all students in the column. For example, the eight white students who said they had as a goal the increase of knowledge and understanding represented 32.0 percent of all white students responding to that question.

It is important to emphasize that the row and column percentages presented in the analysis report give quite distinct but equally useful pieces of information. For example, the 15 married students who responded that an academic goal was to complete high-school requirements represent a high proportion (88.2 percent) of those who had this goal (see 6 in figure C.5). Yet these 15 responses represented only 23.4

## FIGURE C.4

### SAMPLE ITEMS IN THE SOIS FORMER-STUDENT QUESTIONNAIRE



·····QUEST·····  A DATA ANALYSIS PROGRAM DEVELOPED BY THE ··· COLLEGE BOARD ···  PAGE NO 5

THE FOLLOWING 5 QUESTIONS DESCRIBE THE REASONS STUDENTS AT YOUR INSTITUTION ELECTED TO PURSUE POSTSECONDARY EDUCATION WITHIN EACH GROUPING OF GOALS (I E ACADEMIC ETC) THE RESPONDENT MAY HAVE IDENTIFIED MULTIPLE REASONS BEGINNING WITH QUESTION 8 THE MOST IMPORTANT GOALS ARE ANALYZED SEPARATELY

| 7A ACADEMIC GOALS (1) | (3) TOT | PCT | MALES | | FEMALES | | NOT MARRIED | | (6) MARRIED | | NOT HANDICAPPED | | HANDICAPPED | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 TO INCREASE KNOWLEDGE AND UNDER STANDING | 45 | 37 2 | 24 | 53 3 (51 1) | 16 | 35 6 (30 8) | 34 | 75 6 (59 6) | 11 | 24 4 (17 2) | 15 | 33 3 (19 2) | 26 | 57 8 (76 5) |
| 02 TO OBTAIN A CERTIFICATE OR DEGREE | 28 | 23 1 | 5 | 17 9 (10 6) | 6 | 21 4 (11 5) | 5 | 17 9 (8 8) | 23 | 82 1 (35 9) | 18 | 64 3 (23 1) | 5 | 17 9 (14 7) |
| 03 TO COMPLETE COURSES NECESSARY TO TRANSFER | 16 | 13 2 | 1 | 6 3 (2 1) | 15 | 93 8 (28 8) | 1 | 6 3 (1 8) | 15 | 93 8 (23 4) | 15 | 93 8 (19 2) | 1 | 6 3 (2 9) |
| 04 TO COMPLETE HIGH SCHOOL REQUIRE MENTS | 17 | 14 0 | 17 | 100 0 (36 2) | | | 2 | 11 8 (3 5) | 15 | 88 2 (23 4) | 15 | 88 2 ( | 2 | 11 8 (5 9) |
| 05 OTHER ACADEMIC GOALS | 15 | 12 4 | | | 15 | 100 0 (28 8) | 15 | 100 0 (26 3) | | | 15 | 1 ( | | |
| ····· TOTAL ····· | 121 | 99 9 | 47 | 38 8 | 52 | 43 0 | 57 | 47 1 | 64 | 52 9 | 78 | ( | 34 | 28 1 |

| 7A ACADEMIC GOALS | (4) ETHNIC BACKGROUND WHITE | | BLACK | | HISPANIC | | OTHER | | FULL TIME | | PART TIME | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 TO INCREASE KNOWLEDGE AND UNDER STANDING | (5) 8 | 17 8 (32 0) | 7 | 15 6 (21 9) | 3 | 6 7 (16 7) | 27 | 60 0 (58 7) | | | 19 | 42 2 (37 3) |
| 02 TO OBTAIN A CERTIFICATE OR DEGREE | 2 | 7 1 (8 0) | 22 | 78 6 (68 8) | | | 4 | 14 3 (8 7) | 1 | 3 6 (25 0) | 2 | 7 1 (3 9) |
| 03 TO COMPLETE COURSES NECESSARY TO TRANSFER (2) | | | 1 | 6 3 (3 1) | 15 | 93 8 (83 3) | | | 1 | 6 3 (25 0) | | |
| 04 TO COMPLETE HIGH SCHOOL REQUIRE MENTS | 15 | 88 2 (60 0) | 2 | 11 8 (6 3) | | | | | 2 | 11 8 (50 0) | 15 | 88 2 (29 4) |
| 05 OTHER ACADEMIC GOALS | | | | | | | 15 | 100 0 (32 6) | | | 15 | 100 0 (29 4) |
| ····· TOTAL ····· | 25 | 20 7 | 32 | 26 4 | 18 | 14 9 | 46 | 38 0 | 4 | 3 3 | 51 | 42 1 |

| 7A ACADEMIC GOALS | AGE UNDER 23 | | 23 TO 30 | | 31 TO 50 | | 51 TO 60 | | OVER 60 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 TO INCREASE KNOWLEDGE AND UNDER STANDING | 27 | 60 0 (81 8) | 3 | 8 7 (7 7) | 12 | 26 7 (28 6) | | | | |
| 02 TO OBTAIN A CERTIFICATE OR DEGREE | 6 | 21 4 (18 2) | 18 | 64 3 (46 2) | | | 2 | 7 1 (100 0) | 1 | 3 6 (100 0) |

NOTE: See text for descriptions corresponding to numbered items.



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percent of the academic goals of married students in general. The first statistic (row percentage) will alert the manager of a student-retention program, for example, to the probability that most withdrawing students who had this goal will be married. The second statistic (column percentage) will report to others the fact that this goal is only one of several approximately equal academic goals of married students. Indeed, in comparison with the column percentages for withdrawing unmarried students, the goals of withdrawing married students are quite distinct (a clear majority of 59.6 percent of unmarried students respond that their academic goal is "to increase knowledge and understanding"). Thus row and column percentages are equally important to the analyst but for quite different purposes.

### Output Documentation

Accompanying each report produced by the SOIS Questionnaire-Analysis Service is documentation on how the data were organized for computer analysis and on how the cross-tabulations included in the report were prepared. This documentation is contained in two tables—the Question Table and the Cross-Tabulation Report—which appear at the end of each report immediately following the index. The purpose of this appendix is to briefly describe each of these tables, and to show how the information contained in them can be used in designing further local data analyses of the output tapes that can be provided by the analysis service.

### The Question Table

The Question Table illustrates how data from the original questionnaire were converted to the QUEST analysis system for processing. (For those who receive tape output, the Question Table corresponds to the record layout for individual student records on the computer tape.) A sample Question Table is illustrated in figure C.5.

1. QUESTION. This describes the identification, location, length, and number of possible responses for each item. Within that section,
   a) NO. is the sequential number assigned to the question for processing. In the Cross-Tabulation Report, this number is also used to identify questionnaire items.
   b) PRT# is a designation corresponding to the original item on the questionnaire. This number identifies the sequence in which items are printed in the computer-generated output and the actual number that precedes that item in the output.
   c) LOC. describes the starting position of that item in the computer-tape record.
   d) LGTH. describes the number of positions occupied by that item in the computer-tape record.

FIGURE C.5

SAMPLE QUESTION TABLE

***** Q U E S T ***** DATA ANALYSIS PROGRAM DEVELOPED BY THE ***** C O L L E G E B O A R D *****

TITLE — · STUDENT OUTCOMES INFORMATION SERVICES (SOIS)
SURVEY OF FORMER STUDENTS (4-YEAR)

QUALIFICATIONS —

DATE — 11/04/83, PROJECT — 1, SAMPLE — 1, SKIP 0 RECORDS, END ANALYSIS AFTER 99,999 RECORDS

QUESTION TABLE CREATED BY QST 1

| | 1 | | | | 2 | | | | 3 | | | 4 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ******* QUESTION ******* NO. | PRT# | LOC. | LGTH | R# | **** RESPONSES **** # | SET | MODE | N/G | **** PRINT **** N | % | SUM | * COUNTERS * | * CROSS-TAB REQUESTS * |
| 001 | 1 | 78 | 1 | 1 | 2 | | N | N | 0 | 0 | 0 | 34 | 01 02 03 |
| 002 | 2 | 79 | 1 | 1 | 6 | | N | N | 0 | 0 | 0 | 102 | 01 02 03 |
| 003 | 3 | 80 | 1 | 1 | 8 | | N | N | 0 | 0 | 0 | 136 | 01 02 03 |
| 004 | 4 | 81 | 1 | 1 | 2 | | N | N | 0 | 0 | 0 | 14 | 01 |
| 005 | 5 | 82 | 1 | 6 | 5 | | N | N | 0 | 0 | 0 | 85 | 01 02 03 |
| 010 | 6 | 88 | 1 | 1 | 8 | | N | N | 0 | 0 | 0 | 136 | 01 02 03 |
| 020 | 7A | 89 | 1 | 4 | 4 | | N | N | 0 | 0 | 0 | 44 | 01 03 |
| 030 | 7B | 93 | 1 | 4 | 4 | | N | N | 0 | 0 | 0 | 44 | 01 03 |
| 040 | 7C | 97 | 1 | 3 | 3 | | N | N | 0 | 0 | 0 | 33 | 01 03 |
| 050 | 7D | 100 | 1 | 4 | 4 | | N | N | 0 | 0 | 0 | 44 | 01 03 |
| 060 | 7E | 104 | 1 | 6 | 6 | | N | N | 0 | 0 | 0 | 66 | 01 03 |
| 061 | 7A | 110 | 1 | 4 | 4 | | N | N | 0 | 0 | 0 | 44 | 01 03 |
| 062 | 7B | 114 | 1 | 4 | 4 | | N | N | 0 | 0 | 0 | 44 | 01 03 |
| 063 | 7C | 118 | 1 | 3 | 3 | | N | N | 0 | 0 | 0 | 33 | 01 03 |
| 064 | 7D | 121 | 1 | 4 | 4 | | N | N | 0 | 0 | 0 | 44 | 01 03 |
| 065 | 7E | 125 | 1 | 6 | 6 | | N | N | 0 | 0 | 0 | 66 | 01 03 |
| 070 | 8A | 131 | 1 | 1 | 21 | A | A | N | 0 | 0 | 0 | 840 | 01 02 03 04 05 06 07 |
| 080 | 8B | 132 | 1 | 1 | 21 | A | A | N | 0 | 0 | 0 | 840 | 01 02 03 04 05 06 07 |
| 090 | 8C | 133 | 1 | 1 | 21 | A | A | N | 0 | 0 | 0 | 840 | 01 02 03 04 05 06 07 |
| 100 | 9 | 134 | 1 | 1 | 8 | B | N | N | 0 | 0 | 0 | 232 | 01 02 03 04 06 |

e) R# indicates the number of possible responses to that item. In question 005, handicapped status, for example, up to six different responses can be recorded to indicate students who have multiple handicaps.

2. RESPONSES. This describes coding internal to the QUEST system regarding processing items.
3. PRINT. This describes the manner in which the analysis of the item is printed (number only, percent only, summary only).
4. COUNTERS. This describes the size of the item in terms of core storage.
5. CROSS-TAB REQUESTS. This shows the number of the cross-tabulations used against this item. For example, question 004 is analyzed using only cross-tabulation 01, while question 070 is analyzed with cross-tabulations 01, 02, 03, 04, 05, 06, and 07. The method of constructing these cross-tabulations is described in the following section.

## Cross-Tabulation Report

A sample Cross-Tabulation Report from the two-year college, Entering-Student Questionnaire is reproduced in figure C.6. It shows the way in which the cross-tabulation columns were prepared, the headings that appear in the cross-tabulation, and the items on which the cross-tabulation was used. Users of the Analysis Procedures will find this report helpful in understanding exactly which responses to specific questions were used in producing each cross-tabulation.

1. ALGORITHM. This indicates the way in which student responses were selected for inclusion under a cross-tabulation heading. In this example, the algorithm 1 001 1 indicates that the responses grouped in column 1 (headed MALES) were those who answered question 001 (gender) with a response of 01. Similarly, those whose responses are grouped in column 6 (headed HANDICAPPED) are those who responded to question 005 (do you have a physical handicap?) with responses 01, 02, 03, 04, or 05.

   In some cases, student responses to two questions are used to sort the responses into cross-tabulation groups. In those instances, two algorithm statements will be connected in the Cross-Tabulation Report by the words *and* or *or*; *and* is used when a student responded to both indicated questions with the desired response; *or* is used when a desired response to either question would result in inclusion.
2. HEADING. These are words that appear at the top of the individual columns in the cross-tabulations. In many cases, they abbreviate the original responses in the questionnaires. The heading HANDICAPPED, for example, collapses the responses from all types of handicaps (restricted in ability, hearing, vision, and not reported) into a single analytical category.
3. USED ON. This indicates the individual questions cross-tabulated by the algorithm shown. In this example, cross-tabulation 04 has been used on questions 020, 060, 100, 140, and 180.

## Guidelines for Further Institutional Data Analysis

In many cases, institutions will want to supplement the cross-tabulations produced by the SOIS Questionnaire-Analysis Service with data analyses of their own. These may take the form of additional cross-tabulations not provided by the analysis service, of analyses using more sophisticated statistical techniques such as correlation, factor analysis or multiple regression, or of subgroup analyses probing the relationships between student background characteristics and questionnaire responses *within* a particular subgroup of students. For example, an institution might want to know if the academic aspirations of males and females were different for different ethnic or age groups within the institution.

## FIGURE C.6

### SAMPLE CROSS-TABULATION REPORT FOR SOIS ANALYSIS

```
*** CROSS TABULATION REPORT ***

01  ALGORITHM -  1 001 01
                  2 001 00
                  3 004 01                                                    START
                  4 004 00
                  5 005 00                                                    START
                  6 005 01 02 03 04 05   (1)

    HEADING -          MALES      FEMALES    NOT MARRIED    MARRIED    NOT HANDICAPPED    HANDICAPPED

    USED ON -     001 002 003 004 020 030 070 110 150 190

-------------------------------------------------------------------------------------------------------

02  ALGORITHM -  1 002 04
                 2 002 02
                 3 002 03
                 4 002 00 01 05 NR
                 5 130 00                                                     START
                 6 130 01

    HEADING -    ..... ETHNIC BACKGROUND .....                  FULL        PART      (2)
                   WHITE     BLACK     HISPANIC     OTHER       TIME        TIME

    USED ON -     005 020 040 080 120 160 200

-------------------------------------------------------------------------------------------------------

03  ALGORITHM -  1 003 00 01
                 2 003 02 03
                 3 003 04 05
                 4 003 06
                 5 003 07

    HEADING -    ..... AGE .....
                   UNDER 23    23 TO 30    31 TO 50    51 TO 60    OVER 60

    USED ON -     010 020 050 090 130 170 210

-------------------------------------------------------------------------------------------------------

04  ALGORITHM -  1 010 02 03 04 05
                 2 010 00 01
                 3 020 01 02 03 04 05 06 07                                   START
                 4 020 00
                 5 210 03                                                     START
                 6 210 00

    HEADING -    TRANSFER IN   NON-TRANSFER   DEGREE     NON-DEGREE   TRANSFER OUT   RETURNING
                 STUDENT       STUDENT       STUDENT    STUDENT      STUDENT        STUDENT

    USED ON -     020 060 100 140 180   (3)
```

NOTE: See text for descriptions corresponding to numbered items.



BEST COPY AVAILABLE

If questionnaire data are matched with institutional master-file data, many kinds of local data analyses are possible. For example, an institution may wish to relate earned GPA and SAT scores to expressed academic goals and attitudes toward the institution. Or the successive responses of a cohort of students to different questionnaires as the cohort progresses through the institution can be directly related to one another by means of local analyses.

The most efficient way to perform additional data analyses on SOIS Questionnaire-Analysis Service output tapes or on merged institutional master-file data sets is to use one of the many user-oriented statistical packages available. Three of the most widely used are:

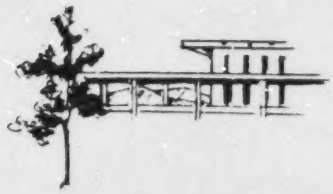
1. *Statistical Package for the Social Sciences (SPSS).* This package is highly user-oriented and includes considerable data transformation capability (recodes, and so forth) as well as a wide range of statistical packages including cross-tabulation, correlation, factor analysis, multiple regression, and discriminate analysis. The basic reference is Norman Nie, C. Hadlai Hull, Jean J. Jenkins, Karin Steinbrenner, and Dale H. Bent, *SPSS,* 2nd Edition, New York: McGraw-Hill, 1975.
2. *Statistical Analysis System (SAS).* This package also provides numerous data manipulation and analysis options. A primary virtue of SAS is that it can read and analyze data from several different data files simultaneously, eliminating the need for merged data sets with a single record for each respondent. The basic reference is SAS Institute, Inc., *SAS User's Guide,* P.O. Box 10066, Raleigh, NC 27605.
3. *P-STAT.* This package is primarily designed for interactive computing and is particularly adapted for maintenance and transformation of data files. It also contains a wide array of statistical-analysis options. The basic reference is Shirrell and Roald Buhler, *P-STAT-78,* P-Stat Inc., P.O. Box 285, Princeton, NJ 08540.

Each of the users manuals for these three packages contains not only complete instructions on how to use the package but also a brief presentation of the assumptions and applications of particular statistical techniques. The reader is urged to consult the manuals in detail.

## APPENDIX D

## Sample Cover Letters

EXAMPLE OF INITIAL COVER LETTER



WINDHAM COLLEGE

PUTNEY, VERMONT 05346

*Office of the President*

August 1, 1982

Dear Former Student:

Our institutional records indicate that you have not returned to Windham. The College is interested in determining the reasons why you left Windham and your degree of satisfaction with various aspects of the College. This information will be particularly helpful in our institutional planning as we continue to meet the needs of the students.

To help us determine this we have enclosed a confidential questionnaire for you to complete. Please complete the questionnaire as soon as possible and return it in the enclosed envelope. You may notice that this questionnaire includes personal data about yourself. This is included in order to verify our institutional records and for statistical purposes. This information will remain confidential and your responses will become part of our statistical report.

If you have re-enrolled at Windham, the receipt of this questionnaire in no way affects that re-enrollment. You were merely selected to receive this questionnaire because you were not continuously enrolled at Windham during one of the preceding years.

Your cooperation and assistance in completing this questionnaire as soon as possible is greatly appreciated. Thank you.

Sincerely,

Harrison M. Symmes
President

HMS/c



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## EXAMPLE OF FOLLOW-UP COVER LETTER

(Date)

Dear Former Student:

Recently we mailed you a confidential questionnaire in which we asked you the reasons why you left (INSTITUTION) and your degree of satisfaction with various aspects of the school. We have not yet received your response to this questionnaire.

To help us plan for the institution and the needs of students, it is essential that we receive as many questionnaires as possible.

We are enclosing another questionnaire for you to complete and return to us. If you have already mailed the questionnaire to us, please disregard this second questionnaire. If you have not completed the questionnaire, please take a few moments to do so. Thank you for your assistance.

Sincerely,



100

SECOND EXAMPLE OF FOLLOW-UP COVER LETTER

Arapahoe
Community College

5900 South Santa Fe Drive
Littleton Colorado 80120
303/794-4550

We know it is easy to put off filling in questionnaires but we need and value your opinion! We appreciate having your point of view. Won't you please take a few minutes and complete the enclosed questionnaire? Thanks, LB

July 25, 1982

Dear Former Student:

Our institutional records indicate that you did not register continuously for the previous year. The College is interested in determining the reasons why you left A.C.C. and your degree of satisfaction with various aspects of the College. This information will be particularly helpful in our institutional planning as we continue to meet the needs of students.

To help us determine this we have enclosed a confidential questionnaire for you to complete. Please complete the questionnaire as soon as possible and return it in the enclosed envelope. You may notice that this questionnaire includes personal data about yourself. This is included in order to verify our institutional records and for statistical purposes. This information will remain confidential and your responses will become part of our statistical report.

If you have re-enrolled at A.C.C., the receipt of this questionnaire in no way affects that re-enrollment. You were merely selected to receive this questionnaire because you were not continuously enrolled at A.C.C. during the 1981-82 school year.

Your cooperation and assistance in completing this questionnaire as soon as possible is greatly appreciated. Thank you.

Sincerely,

Leahbeth Barnard

Leahbeth Barnard
Director of Counseling

LB:pk



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# APPENDIX E

## Sample Report

Memorandum March 15, 1983

TO: George Gifford, Vice-President and Chairman
Student Retention Committee

FROM: Jennifer Platt, Coordinator for Student Affairs Research

SUBJECT: Retention Issues for Various Student Populations

The purpose of this memo is to present for the Committee's consideration some observations on the recently completed follow-up studies of Fall 1980 and Fall 1981 Entering Students at Sunnyvale Community College (SCC). Although we discussed some of these findings in the Committee meeting on March 10 and again in the in-service workshop with faculty the next day, I thought it would be useful to set down some of the major trends in the data and their implications.

**1. General Patterns of Retention:**

The primary reason why we embarked on the fall series of cohort studies was, of course, to determine accurately for the first time what rates of attrition SCC was experiencing. This turned out not to be easy, largely because some information was missing from student files and because of the great variations in types of academic programs available. Nevertheless, we have now tracked two cohorts of students through their SCC experiences, and the results are, I think, quite revealing.

It is important to emphasize that the two cohorts *together* are much more valuable than each of them taken separately. Not only can we be a good deal more confident that we are measuring something real when the two studies give similar results, but we are also able to clearly see the effects of changes in the composition of the student body over time. As I pointed out at our last meeting, the data are in many respects most valuable for what they *don't* show. They do not, for example, show considerable fluctuations in the retention rates for particular student populations or programs. This implies that the way we have broken down the student population into analytical groups is appropriate, and that we are dealing with relatively stable patterns of student behavior. The data also do not show that SCC has a major retention problem for traditional student populations—full-time, younger, day, degree-seeking students. Indeed, the "completion" rates shown and

the term-to-term retention rates achieved for this body of students are comparable to those typical of most community colleges nationwide. In fact, because this population of students constitutes an unusually large component of SCC's enrollment, overall retention rates are quite good comparatively.

Most importantly, perhaps, the data effectively confirm previous perceptions about retention at SCC and the populations in which effective retention occurs. Furthermore, the analysis indicates the degree to which changes in overall retention are primarily due to changes in the composition of the student body, and that new retention policies will probably thus result in relatively marginal comparative improvements in overall retention for specific, carefully targeted bodies of students. One role of the data collected, therefore, is to help define these target groups and to help anticipate what kinds of improvements can *reasonably* be expected as a result of new policies and procedures.

Table 1 presents summary results for both cohorts. A similar table breaking down results by program has been supplied to the Deans for their information. Definitions of major categories are as follows:

"Completer"—A student is placed in this category if he/she has completed the degree or certificate in which he or she *first* enrolled.

"Still Attending"—A student is placed in this category if he/she is enrolled at SCC in *any* capacity for six semesters after first enrolling.

"Fall 198_ Only"—A student is placed in this category if he/she is enrolled *only* for the first semester of attendance and never returned to SCC in any of the five semesters studied.

These categories are, of course, not mutually exclusive. A student could "complete" a short program and still be a "Fall Only" attender. A student could "complete" a program and still be enrolled subsequent to completion by taking courses not related to his or her original program. The point of the categories is to highlight general patterns rather than to provide a precise enrollment history for each student.

Comparison of the demographic profiles of the Fall 1980 and Fall 1981 entering cohorts reveals that the later entering group contained a somewhat higher proportion of traditional students—younger, full-time, enrolling for transfer work or for explicit job preparation. These differences, and the somewhat smaller size of the Fall 1981 cohort, are important because they are largely responsible for the differences in retention rates experienced by the two cohorts as a whole.

For example, the entire 1980 cohort experienced approximately 3.5% greater "attrition" than its 1981 counterpart. That is, 54.6% of the Fall 1980 entering group attended only the first semester, and 51.4% of the Fall 1981 group attended only the first semester. Similarly, 21% of the 1981 group as a whole was still attending SCC five semesters later, and 17.9% of the 1980 group did so. Looking at the

TABLE E.1

RETENTION OF FALL 1980 AND FALL 1981 COHORTS

| | N | | Completers | | Still Attending | | Fall Only | |
|---|---|---|---|---|---|---|---|---|
| | 1980 | 1981 | 1980 | 1981 | 1980 | 1981 | 1980 | 1981 |
| TOTAL | 1411 | 1279 | 11.4% | 13.9% | 17.9% | 21.0% | 54.6% | 51.4% |
| Male | 560 | 528 | 14.3 | 17.4 | 21.4 | 27.7 | 52.7 | 46.0 |
| Female | 851 | 751 | 9.5 | 11.5 | 15.6 | 16.4 | 55.9 | 55.3 |
| Under 20 | 600 | 681 | 19.0 | 21.1 | 30.4 | 30.5 | 40.1 | 36.1 |
| Over 20 | 811 | 598 | 5.8 | 5.7 | 8.7 | 10.2 | 65.4 | 68.9 |
| White | 1340 | 1212 | 11.6 | 14.4 | 17.9 | 21.8 | 54.7 | 52.3 |
| Non White | 71 | 67 | 7.1 | 6.0 | 18.6 | 7.5 | 52.9 | 35.0 |
| Jersey | 753 | 630 | 11.0 | 17.9 | 22.0 | 26.7 | 48.6 | 46.8 |
| Whitcomb | 321 | 357 | 4.7 | 4.2 | 8.4 | 8.7 | 63.2 | 61.1 |
| Altier | 157 | 105 | 10.8 | 10.5 | 15.9 | 21.9 | 60.5 | 54.3 |
| Nicholson | 117 | 117 | 15.4 | 10.3 | 6.0 | 18.8 | 69.2 | 53.0 |
| Other | 63 | 70 | 44.3 | 38.6 | 44.3 | 35.7 | 41.0 | 37.1 |
| Transfer | 208 | 188 | 14.4 | 15.1 | 34.6 | 39.4 | 30.3 | 24.5 |
| Occupational | 455 | 347 | 28.6 | 39.2 | 23.3 | 33.1 | 46.6 | 32.6 |
| Other | 748 | 744 | 0.1 | 1.1 | 10.0 | 10.8 | 66.3 | 67.1 |
| Prepare for Job | 432 | 440 | 25.2 | 25.0 | 24.8 | 30.2 | 40.5 | 35.0 |
| Improve Skills | 116 | 84 | 13.8 | 17.9 | 4.3 | 8.3 | 75.9 | 73.8 |
| Explore Courses | 26 | 27 | 11.5 | 3.7 | 34.6 | 18.5 | 46.2 | 44.4 |
| Transfer Work | 198 | 248 | 13.6 | 16.9 | 32.3 | 34.3 | 40.9 | 32.3 |
| Remedial | 301 | 162 | 0.3 | 0.6 | 15.3 | 9.3 | 57.8 | 62.3 |
| Personal/Self Dev. | 315 | 294 | 1.0 | 2.7 | 5.7 | 7.8 | 71.1 | 79.3 |
| Other | 23 | 24 | 8.7 | 4.2 | 17.4 | 4.2 | 65.2 | 66.7 |
| Full-time | 391 | 445 | 33.8 | 32.4 | 41.2 | 42.7 | 21.5 | 18.9 |
| Part-time | 1020 | 834 | 2.8 | 4.7 | 9.0 | 9.5 | 67.4 | 69.3 |

differences for particular demographic groups, however, very few differences between 1981 and 1982 are notable. Percentages "still attending" in the full-time and under-20 groups, for example, are quite similar.

This leads to the conclusion that the enrollment behavior of particular subgroups of students is fairly stable over time, and that differences in overall retention rates are primarily due to differences in the proportion each subgroup constitutes of the student population as a whole. If stability of subgroup behavior is assumed to hold over time, it is possible to approximate the "natural" retention rate for any given SCC entering class given its demographic composition. This "natural" estimated rate could then be compared to actual rates obtained in order to assess the effectiveness of particular retention strategies that SCC might put in place.

**2. Reasons for Leaving SCC:**

In addition to tracking two student cohorts, we surveyed students withdrawing from SCC over the past two years. As you will recall, surveys were sent to all students not returning to SCC after two terms of absence. The survey instrument we used was the NCHEMS/College Board SOIS Former-Student Questionnaire, and we received a 46% return after two mailings. Detailed results of the survey can be supplied upon request.

Table 2 summarizes salient points of this survey. Five general reasons for withdrawal are broken down by demographic group in this table. I would like to particularly draw your attention to the following:

- Only a bit over a third of these withdrawing were dissatisfied with the academic environment we provided. Almost as many were leaving for the more positive reasons of having achieved a goal or accepted a job. Approximately a quarter were leaving because of a personal or financial reason.
- Men were more likely to be leaving for a job; women were more likely to be leaving for a personal or financial reason.
- Younger students were considerably more likely to be leaving for "positive" reasons such as goal fulfillment or employment.

TABLE E.2

PERCENT RESPONDING WITH REASON FOR WITHDRAWAL

| | Achieved Academic Goals | Dissatisfied with Academic Performance | Achieved Personal Goals | Accepted a Job | Personal or Financial Reason |
|---|---|---|---|---|---|
| TOTAL | 32 | 37 | 35 | 18 | 24 |
| Male | 30 | 39 | 36 | 27 | 16 |
| Female | 34 | 35 | 35 | 8 | 33 |
| Under 20 | 36 | 29 | 41 | 27 | 16 |
| Over 20 | 27 | 46 | 29 | 11 | 31 |
| White | 32 | 37 | 35 | 18 | 24 |
| Non White | 31 | 37 | 34 | 19 | 24 |
| Jersey | 30 | 38 | 35 | 19 | 23 |
| Whitcomb | 33 | 36 | 38 | 18 | 24 |
| Altier | 32 | 34 | 29 | 16 | 23 |
| Nicholson | 29 | 39 | 34 | 21 | 27 |
| Other | 31 | 36 | 37 | 18 | 21 |
| Transfer | 41 | 39 | 35 | 9 | 21 |
| Occupational | 24 | 34 | 36 | 41 | 19 |
| Other | 31 | 36 | 34 | 16 | 32 |

— No differences were apparent by county of residence or race in terms of reasons for withdrawal.
— Reasons for withdrawal were consistent across programs—occupational students more frequently left for jobs, while transfer students reported academic goal fulfillment to be a major reason for leaving.

These responses reinforce our suspicion that different kinds of students are withdrawing from SCC for different reasons. They also allow us to put into perspective the total attrition figures we have obtained from the cohort studies. Many of our students are withdrawing for "positive" reasons or for reasons about which we can do little. This makes it all the more important that we carefully target our retention efforts on those issues and those student populations we *can* affect positively.

**3. Some Specific Retention Populations:**

In my memo of December 5 on the structure of enrollment at SCC, I suggested that retention discussions be undertaken in terms of five quite distinct student populations:

— Full-time, day transfer program students
— Full-time, day occupational program students
— Part-time, day students seeking degrees or certificates
— Part-time, evening students seeking degrees or certificates
— Non-program students

Together, these five types have constituted 90-95% of SCC's enrollment in a given term, and furthermore, the proportions of the total enrollment that each represents have remained fairly constant over time.

Because these five student populations are quite distinct, it is useful to consider them independently. The charts that follow are intended to guide discussion by summarizing on a single piece of paper what we currently know about each population, what questions this knowledge seems to raise, and what kinds of recommendations seem fruitful to pursue. These charts should be added to and modified through Committee discussion. They are intended only as a starting place for making recommendations.

I look forward to meeting with the Committee and to discussing the implications of these findings in more detail.

## Retention Population Issue Summary—1

Student Population: *Full-time Day Transfer*

A. Retention Rates

| | Fall 1980 Cohort | Fall 1981 Cohort |
|---|---|---|
| "Completers" | 20.1% | 24.1% |
| "Still Attending" | 43.8% | 45.4% |
| "First Semester Only" | 20.8% | 17.7% |

B. Important Demographic Characteristics

55-60% male
85-90% under 20 years old
50-55% from Jersey County
15-25% "to prepare for job or career"

C. Reasons for Leaving SCC (Summary Results)

47% Achieved academic goals
7% Accepted a job
39% Dissatisfied with academic performance

D. Retention Objectives/Approaches

– Increase proportion transferring to senior institutions having completed AA/AS degree

—Minimize number of students leaving for "traditional" academic or social reasons throughout the enrollment period

E. Summary

This is SCC's "traditional" college student population. Although it constitutes only about 10% of total headcount, it generates a high proportion of total FTE. Preventing *one* student from this category from leaving the institution is the equivalent in SCH terms of saving three part-time students. These students are likely to respond to traditional retention approaches—early warning, improved advisement, greater levels of information involvement with faculty, and other programs aimed at increasing total involvement with the institution.

## Retention Population Issue Summary—2

Student Population: *Full-time Day Occupational*

A. Retention Rates

| | Fall 1980 Cohort | Fall 1981 Cohort |
|---|---|---|
| "Completers" | 51.3% | 45.1% |
| "Still Attending" | 42.1% | 42.9% |
| "First Semester Only" | 17.8% | 15.5% |

B. Important Demographic Characteristics

45-50% male
75-80% under 20 years old
55-60% from Jersey County
90-95% "to prepare for job or career"

C. Reasons for Leaving SCC (Summary Results)

43% Accepted a job
24% Achieved academic goal
34% Dissatisfied with academic performance

D. Retention Objectives/Approaches

—Maintain current high-retention curricula unchanged

—In current low-retention curricula, determine if students are leaving for employment in field or for other reasons

—Minimize number of students in large programs leaving for "traditional" academic or social reasons

E. Summary

This is also a "traditional" population, but somewhat different from the transfer population. Differences in retention rates among particular programs are remarkable, and individual retention strategies will have to be examined for each program. In some curricula there is clearly no problem, and care should be taken that college-wide programs do not disturb a good thing. In other curricula, college-wide programs such as academic early warning may well be beneficial. In both cases, it should be determined more effectively by program how many students are leaving because they have successfully found employment.

**Retention Population Issue Summary—3**

Student Population: *Part-time Day Program*

A. Retention Rates

| | Fall 1980 Cohort | Fall 1981 Cohort |
|---|---|---|
| "Completers" | 6.6% | 28.4% |
| "Still Attending" | 9.0% | 16.5% |
| "First Semester Only" | 62.0% | 59.6% |

B. Important Demographic Characteristics

75-85% male
55-60% under 20 years old
55-60% from Jersey County
50-55% "to prepare for job or career"

C. Reasons for Leaving SCC (Summary Results)

29% Achieved academic goals
14% Accepted a job
34% Personal or financial reason
38% Dissatisfied with academic performance

D. Retention Objectives/Approaches

—Determine if students are leaving to seek employment or because family/financial pressures have become excessive

—Determine seriousness of job preparation intention

—Remove *physical/logistical* barriers to attendance (e.g., job conflict or family responsibility)

—Remove *psychological* barriers to attendance (e.g., feelings of inferiority on returning to school)

E. Summary

This is a very "non-traditional" population. Attrition in this group is probably more due to lack of psychological support or the existence of barriers to attendance than due to academic failure. Ways to identify problems in this group at an early point are particularly important as they will not stick around to be noticed.

## Retention Population Issue Summary—4

Student Population: *Part-time Evening Program*

A. Retention Rates

| | Fall 1980 Cohort | Fall 1981 Cohort |
|---|---|---|
| "Completers" | 12.2% | 6.3% |
| "Still Attending" | 9.5% | 16.7% |
| "First Semester Only" | 70.1% | 60.4% |

B. Important Demographic Characteristics

80-85% under 20 years old
45-50% from Jersey County
35-40% "to prepare for job or career"

C. Reasons for Leaving SCC (Summary Results)

49% Dissatisfied with academic performance
37% Personal or financial reason
9% Accepted a job
24% Achieved academic goals

D. Retention Objectives/Approaches

—Determine if students are leaving to seek employment or because family/financial/job pressures have been excessive

—Remove physical/logistical barriers to attendance (scheduling, travel problems, etc.)

E. Summary

This is probably a mixed population. Attrition will probably be lowest among those attending for career upgrade purposes in occupational programs, and attrition here will probably be the result of factors such as cost, lack of time, or job conflict. Attrition will be highest among those taking courses with an eventual thought of career change or earning a transfer degree. Here attrition will more likely be a psychological phenomenon. Early determination by faculty in evening courses of student intent seems a promising first step here.

## Retention Population Issue Summary—5

Student Population: *Non-Program Students*

A. Retention Rates

| | Fall 1980 Cohort | Fall 1981 Cohort |
|---|---|---|
| "Completers" | 0.1% | 1.1% |
| "Still Attending" | 10.0% | 10.8% |
| "First Semester Only" | 66.3% | 67.1% |

B. Important Demographic Characteristics

60-65% female
65-70% over 20 years old
45-50% in Jersey County
25-30% "to remedy skills deficiency"
35-40% "personal self-development"

C. Reasons for Leaving SCC (Summary Results)

43% Achieved academic goals
31% Personal or financial reasons
39% Dissatisfied with academic performance

D. Retention Objectives/Approaches

—Encourage students to enroll in programs, if appropriate, on a part-time basis

—Develop permanent "personal/self-development" clientele among older students who return to the College for further instruction

E. Summary

Although this group comprises about half of SCC's headcount enrollment, it is difficult to talk meaningfully about attrition at all here, given the diversity in original intentions. This group should not be a primary target of retention efforts. Efforts to identify potential program students within this group at an early point should be encouraged, however.

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